

Vacaville early fruit district

E. J. Wickson.

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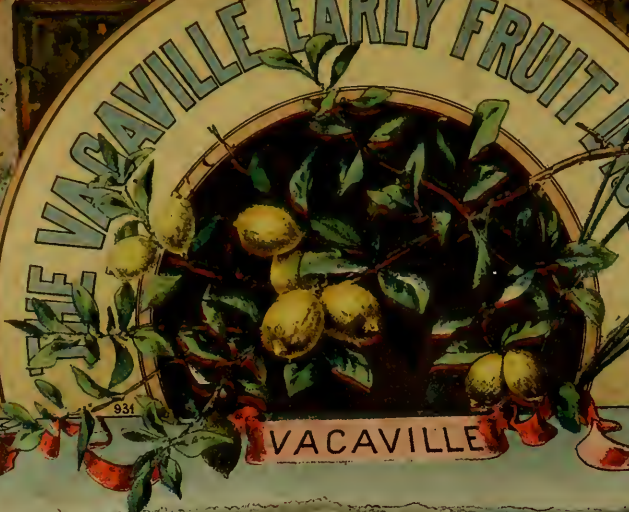


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CALIFORNIA ILLUSTRATED

THE VACAVILLE EARLY FRUIT DISTRICT



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VACAVILLE

WINTERS



BY

EDWARD J. WICKSON

PUBLISHED BY THE

CALIFORNIA VIEW PUBLISHING CO.
SAN FRANCISCO

CALIFORNIA ILLUSTRATED No. 1.

THE VACAVILLE EARLY FRUIT DISTRICT,

By EDWARD J. WICKSON,

LECTURER ON PRACTICAL AGRICULTURE, UNIVERSITY OF CALIFORNIA; EDITOR PACIFIC RURAL PRESS; AND SECRETARY STATE HORTICULTURAL SOCIETY.

PUBLISHED BY THE

CALIFORNIA VIEW PUBLISHING COMPANY,
SAN FRANCISCO.

This work is the first number of a series whose object is thus aptly stated by Prof. Wickson in his "Introductory," on the following pages: "The employment of color and the camera in a systematic attempt to make California better known; presenting actual facts, not the idealized conceptions of artists; true to topography; true to results attained by formative processes; true to existence in form and color."

It is also believed to be the first thorough-going attempt in California to make a local descriptive work so attractive as to sell on its merits away from its own locality, a work to interest everybody, from either its pictures or its facts.

This number is intended especially to illustrate the important and rapidly growing industry of

CALIFORNIA FRUIT GROWING

by the experiments, practices and results in this representative district; and, as the stories of "Gold at Sutter's Mill" covered all parts of the State with adventurous gold seekers, so the story of "Fruit at Vacaville" will, it is expected, help fill all California with happy, healthy, intelligent fruit growers.

Its fresh, vigorous and truthful accounts will be as fascinating as the "Arabian Nights" to the thousands who are looking with longing eyes to our great State from their land of blizzards, cyclones, thunder-storms and sunstrokes, though still hardly crediting the ever wonderful story of California—where there are none of these terrors of nature.

Its author, Prof. Wickson, is considered one of the best writers on the Pacific Coast on horticultural subjects, from his unequalled opportunities for gaining information, from his well-known reputation for fair and candid writing, and from the special study he has given the subject for several years in preparing his own work, soon to be issued, on "California Fruits, and How to Grow Them."

This work is now published by the Vacaville district as an advertisement of land to sell, as a casual observer might infer from noting only the second part of its title. While giving a description of the Vacaville Early Fruit District, it recognizes that district as typical of the State at large, and emphasizes the fact that the same energy, enterprise and wise adaptation of means to ends which has made this a shining example, exerted elsewhere in the State, will surely be rewarded with a large measure of the same success.

Author, photographer, lithographer and printer have all labored, regardless of expense and with the utmost care, to render this work one which every Californian will be interested to read and send to friends abroad; and it is sincerely hoped that the public will recognize it as a good thing, and by its patronage encourage further effort in other parts of the State.

For sale by all book stores and news agents, or sent postpaid on receipt of price.

W. R. NUTTING, MANAGER,

12 MONTGOMERY STREET, SAN FRANCISCO.

N. B.—Any reader of this work sending us his address will receive, in advance of publication, a prospectus of each future issue, thus being able, if desired, to secure a complete set of California pictures.

—& THE —

CALIFORNIA VIEW PUBLISHING CO.

(Incorporated April 4, 1887.)

PUBLISHERS OF

Elegantly Illustrated California Books for Popular Sale.

DIRECTORS.

W. B. EWER, PRESIDENT.
R. J. TRUMBULL, VICE-PRESIDENT.
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Much money has been expended and millions of pamphlets printed to influence immigration to this State. Some of these have been creditable productions, but it may be claimed, without fear of contradiction, that by far the larger number of them have been rendered practically useless by lack of care and experience in their preparation or by their plainly apparent untruthfulness. The relative value set upon them by their sponsors, as evidenced by the inferior paper, presswork and illustrations, and their gratuitous distribution, has justified the slight measure of respect with which they have been received.

But at the present stage in the growth of California, circumstances seem to warrant the organization of a business for the express purpose of carrying on a systematic investigation of the merits of different parts of the State; and of publishing them to the world by means of the most able and reliable writers, the finest illustrations, and the best of the printer's art, making works in every way equal to those devoted to subjects of similar importance elsewhere.

All who are awake to the signs of the times will agree with us that a very different grade of work is necessary to meet the taste of the class of people coming to the Pacific Coast at this time, from that which may have served its purpose when only horny-handed pioneers were coming and settling upon the Government lands.

THE PLANS OF THE CALIFORNIA VIEW PUBLISHING COMPANY

are based on a belief in the following propositions, among others:

1st. That the hundred thousand intelligent and well-to-do people now annually seeking a winterless climate, homes or investment in this wonderful country, would rather pay a small sum for reliable information illustrated by original views from photographs, than to have thrust upon them, without cost, the abominable issues of old stock cuts, lies, bad grammar and real estate puffs, which now bring more ridicule than benefit upon any community issuing them.

2d. That almost any section of California has plenty of curious facts and picturesque views, if properly worked up in book form, to make works which it will pay the publishers to offer for sale on trains and news-stands all over the country, and which the multitude of people interested in some way or other in the magic name of California will gladly purchase and read.

3d. That such works elegantly gotten up will meet a demand almost unrecognized hitherto, among the half million city people in California, who will want them to read first at home, and then to send to some far off friend,—as telling more of California country life than bushels of letters could tell.

4th. That though such works may come high in first cost, they will be the cheapest kind of advertising for the State in the long run; because, so long as

they sell at a profit, the publishers, having the plates, will continue to print them off and keep them before the public without further expense to the locality interested.

Whether or not our object of giving the largest possible circulation to the most truthful possible representations of California scenery, will be best accomplished by the use of color, will be determined somewhat by the success of this first attempt.

We have adopted color in spite of the heavy expense, simply for the business object of gaining profitable circulation for the work, believing that if our artists have done their part as well as they claim, the "California colors" will make the book interesting to many people who would never look at it if in plain black and white.

CALIFORNIA IS A LAND OF COLOR,

and perhaps in no other part of the world is there such a variety of subjects requiring the use of color to properly illustrate them,—bright color, the magnet which attracts all eyes, interests all to read, and opens all pockets to buy for children and friends.

Those who cover their walls with the finest paintings in color, certainly cannot decry the principle of using color in illustrating nature, whether they agree with us in practice or not. And we leave it to our readers to determine, by their orders, which is in fact the more to be commended: the publisher and advertiser of natural scenery who hangs a \$200 7x9 painting in his parlor, while giving his readers cheap black cuts; or the one who puts the \$200 painting on stone in shape to reproduce as naturally as possible, for the enjoyment of thousands, instead of on canvas for the private enjoyment of a few.

But whether with or without color, this company proposes to publish a series of works upon California and the Pacific Coast which will be profitable to keep on sale in the Eastern States because of their literary, typographical and artistic excellence.

We believe we deserve the aid of every true Californian in this enterprise, because if it can be made a practical success it will do much to counteract the state of affairs referred to in the following extracts from a Chicago letter:

AN EFFORT TO STOP EMIGRATION TO CALIFORNIA.

"It has been learned by careful inquiry that a widespread and powerful effort is being made through the press to stay the tide of emigration to the Pacific Coast. Leading men in this State (Illinois) and Michigan frankly admit that the drain in men and money is being severely felt, and that in some way it must be checked. The denunciatory articles appear first in one paper and then in another, in widely separated localities; but no matter where they originate they are copied approvingly everywhere, and often reinforced and buttressed with editorial approval. The harm they are doing is incalculable, and unless prompt and effective steps are taken there will soon be a large falling off in California immigration.

* * * * *

"I wish to add to the above that pamphlets and advertising matter sent out by Boards of Trade in the several counties and States do not meet the requirements of the case. Such matter is looked upon as of doubtful credibility, written by interested parties for interested purposes, over-colored, and, in fact, intended to deceive. A statement, for example, concerning Southern California from Los Angeles sources carries no weight whatever, and usually causes a smile of derision."

If it be true, as many things indicate, that California can no longer have a fair representation in the leading newspapers of the East, so much the more need of getting reports of her growth and prosperity, her balmy winters and her fruit-growing, into the homes of the people by some other means. If it is possible to make these works so attractive as to be profitable to sell, Eastern book and news agents can be trusted to push their distribution to the uttermost corners of the earth, in their own self-interest.

This is Our Problem!—Can it be Done?

THE VACAVILLE EARLY FRUIT DISTRICT.

LIST OF ILLUSTRATIONS.

(Orders for Original Photographs of these Illustrations may be given by the Negative Number without writing the title, pains being taken, however, not to omit the letters attached to the figures. All numbers from 837 to 1191 were taken in October, November and December, 1886; 2200 to 2496 from June 21, to December 14, 1887, and 2497 to 2777, from January to July, 1888. Dates of particular Views will be given on application. Prices will be found on another page.)

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856....	Flame Tokay Vineyard in Vaca Valley in November; L. W. & F. H. Buck	4
868....	Packing Late Peaches and Grapes for Chicago's Thanksgiving Dinner; A. McKevitt	5
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883....	Magnificent California Fig Orchard in Pleasants' Valley, at E. R. Thurber's.....	8
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923....	Chinaman Picking Oranges at Charles Martell's the 8th of November.....	1
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966....	Romantic View in Miller Cañon, Pleasants' Valley	Cover
1035....	Summer Residence at Pioneer Ranch of Mrs. G. M. Blake, of San Francisco.....	8
1051....	Ripe Oranges at Hon. L. W. Buck's, Vaca Valley, early in December.....	5
1052....	Heavily Loaded Japanese Persimmon Tree at Hon. L. W. Buck's	6
1075....	Magnificent Weeping Oaks and Residence of F. H. Buck, Vaca Valley.....	4
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2459....	Representative Weeping Oak of the California valleys.....	3
2473....	Manzanita, a beautiful native shrub, the "Little Apple" of the Indians and bears.....	4, 10
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2528....	Orange Grove and Residence of Mrs. S. C. Wolfskill.....	9
2530....	Fan Palm and Orange Grove at Briggs Brothers', Winters.....	9
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2538....	Mouth of Putah Cañon and Site of Putnam's Early Vegetable Raising for San Francisco Market.	7
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ADDITIONAL PHOTOGRAPHIC ILLUSTRATIONS OF THE DISTRICT.

The following list, though published mainly for the convenience of the people of the district, and consisting largely of views taken on private orders for home use, contains so many views of subjects mentioned or described in this work, that its insertion may be allowed in connection with the previous list. Several people in the district have expressed a desire to obtain full collections of these views mounted in albums for permanent reference—collections sure to be highly prized in future years, when perhaps the country and its inhabitants will have changed again, as much as in the years past. And even strangers can find in the list many subjects of interest to intending settlers, investors, or visitors to California or the Vacaville District.

Many of them are of equal or greater interest than those in the plates, and would have been inserted if there had been room, or if the original prospectus had not compelled the insertion of one general landscape view on each page, which prevented the use of anything else which it was thought would not show well in a small corner-piece.

If it were to be done again with the experience gained in arranging the eighty views in this work, many of those omitted would be put in, instead of those first selected.

Negative No.	TITLE.
839....	Front View of W. W. Smith's Orchards, Vineyards and Residence.
847....	Three Oaks—Residence of A. McKevitt.
849....	Upper Vaca Valley, north from near A. McKevitt's.
851....	Bird's-eye View of A. McKevitt's Ranch, from the west.
854....	Bird's-eye View of L. W. & F. H. Buck's, from the west to Smith's Peak.
860....	Bird's-eye View of F. H. Buck's Home Ranch, from the east.
874....	The "Coon Hunters"—Boys on Bridge at E. R. Thurber's.
877....	Great White Rose Bush on Summer-house at E. R. Thurber's.
885....	Ranches of J. Nathan Rogers and P. H. Lepley, Vaca Valley.
887....	Distant View of Gates' Cañon, from W. W. Smith's.
888....	Same, with fine View of Smith's forty-acre Cherry Orchard and Residence.
890....	Packing-house and Four-horse Fruit Wagon at W. W. Smith's.

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v

Negative No.

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- 897.... Upper Vaca Valley—Ranches of Messrs. Sweeney, John Wells, L. W. Buck, Winchell, Bradley, and the Weldon Cañon.
- 900.... Weldon Cañon and Ranch of Hon. L. W. Buck.
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- 911.... One hundred pounds Black Morocco Grapes on one Vine, L. W. and F. M. Buck standing near.
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- 929.... Oakdale School-house and Children, November 9, 1886.
- 933.... Orange and Lemon Grove at William Cantelow's, from which sample Orange Tree was sent to the Chicago Citrus Fair, 1886.
- 937.... Family Group under the Fig Trees at E. R. Thurber's.
- 938.... Residence of E. R. Thurber and View of Putnam Peak, from the northwest.
- 949.... Residence and Family Group of W. H. Price, Vaca Valley.
- 950.... Picturesque Oak-shaded entrance to Grounds of Mrs. G. M. Blake, Pleasants' Valley.
- 955.... Volcanic Rocks at top of Putnam Peak, with view of Pioneer Ranch and Miller Cañon.
- 960.... Pleasants' Valley, Martell's Ranch and Putnam Peak, from Pioneer Ranch.
- 965.... Romantic Scenery around "The Basin" in Miller Cañon.
- 967.... A fine view of Blue Mountain Wildwood Scenery, head of Miller Cañon.
- 1002.... Residence and Family Group at F. N. Wertner's, Pleasants' Valley.
- 1004.... Pleasants' Valley School-house and Children, November 19, 1886.
- 1007.... View across Upper Vaca Valley from L. L. Hatch's to Weldon Cañon.
- 1027.... Residence of W. D. Rhodes, Pleasants' Valley.
- 1031.... Packing-house, Fruit Team and Chinamen, at Pioneer Ranch.
- 1038.... Front View of Mrs. G. M. Blake's Summer Residence, at Pioneer Ranch.
- 1040.... View of a very fine lot of Chrysanthemums in full bloom in December, at Pioneer Ranch.
- 1041.... Picturesque View of Pioneer Ranch and Miller Cañon, from an Oak at Martell's.
- 1043.... Residence of Washington Johnson, Pleasants' Valley.
- 1055.... Residence and Family Group at John B. Cory's, Vaca Valley.
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- 1087.... Front View of B. F. Newport's Residence, Vine Avenue.
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- 1100.... Front View of Residence of J. M. Bassford, Jr.
- 1105.... Remarkable Mahaleb Cherry Tree at J. M. Bassford, Jr's.
- 1110.... The north end of Bassford's Cañon, and Orchards of J. M. Bassford, Sr., and H. A. Bassford.
- 1112.... Cherry Orchard of J. M. Bassford, Jr., worked over to new varieties when seven years old.
- 1127.... Senior Class at California Normal College, Vacaville, December, 1886.
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- 1184.... Residence of Edward Fisher, Cashier of the Bank of Vacaville.
- 1191.... Family Group at John Caughy's, foreman for L. W. and F. H. Buck.
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- 2207.... Residence and Fine Apricot Orchard of ex-Senator Parker, Vacaville.
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- 2212.... Skyhigh Ranch, Pleasants' Valley, G. W. Hinckley, Proprietor.
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- 2215.... Cutting Apricots for Drying, at E. R. Thurber's, Pleasants' Valley.
- 2217.... Laguna Valley, the Lagoon and Lagunita Rancho, Mrs. E. P. Buckingham.
- 2224.... Residence of Mrs. E. P. Buckingham, surrounded by Orchard Trees planted by Jose D. Peña in 1852-53-54.
- 2231.... Three-year-old Pear and Prune Orchards at Mrs. Buckingham's.
- 2232A.... Three-year-old Peach Orchard in bearing at Mrs. Buckingham's.
- 2238.... Music-room at Mrs. Buckingham's.
- X 2241.... Lagunita Rancho, from the west, 200 Acres Three-year old Orchards, July, 1887.
- X 2242.... Lagunita Rancho, from the southwest, 200 Acres Three-year old Orchards, July, 1887.

Negative No.	TITLE.
2243....	Front View of Mrs. E. P. Buckingham's Residence.
2245....	Fruit Packing House under the Fig Trees at Lagunita Rancho.
2246....	A half mile Avenue of Three-year-old Pear Trees at Lagunita Rancho.
2248....	Three-year old Cherry Orchard and Rocky Hill at Lagunita Rancho.
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2267A....	Sun-drying Fruit at W. W. Smith's.
2272....	View showing size of W. W. Smith's Twelve-year-old Cherry Trees and Arches under them.
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2287....	Sacramento Valley Threshing Outfit on the road, McKinstry and Caughy.
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2296....	Threshing Outfit in Suisun Valley, A. A. Dickey's.
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2300....	Cutting Peaches in Vaca Valley Orchard, E. F. Pinkham's.
2301A....	Drying Peaches in Vaca Valley Orchard, E. F. Pinkham's.
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2305....	Forty-foot Staging for Picking Figs, at Mrs. E. P. Buckingham's.
2306....	Packing-house and three ton loads of Fruit going East from H. A. Bassford's.
2307....	View showing the number and portraits of hands employed at H. A. Bassford's.
2310....	Peeling Peaches at H. A. Bassford's.
2313....	Girls cutting fruit at H. A. Bassford's.
X 2319....	Bassford's Cañon, east to Vacaville and Elmira.
2320....	Bassford's Cañon, east to Vacaville and Elmira.
2324....	Fruit Grader at J. W. Gates', for sorting out large fruit for canning.
2325....	Fine View of Orchards and Residence of J. W. Gates, from hill northeast.
2331....	Fine View of Orchards and Ranch of J. W. Gates, from hill south.
2332....	Orchards and Residence of L. L. Hatch.
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CALIFORNIA VIEW PUBLISHING COMPANY,

12 Montgomery St., San Francisco.

CALIFORNIA ILLUSTRATED, NO. I.

THE
VACAVILLE EARLY FRUIT DISTRICT
OF
CALIFORNIA.

BY EDWARD J. WICKSON.

“Each tree
Laden with fairest fruit, that hung to th’ eye
Tempting, stirred in me sudden appetite
To pluck and eat.”
—Milton.

CALIFORNIA VIEW PUBLISHING COMPANY.
SAN FRANCISCO,
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INTRODUCTORY.

THIS work is the first outcome of an attempt which is, in some respects at least, original. It is not presented as a work of art either imitative or decorative, and should not be judged by art standards.

Its purpose is to present certain phases of California industrial life with accurate portrayal of the environment amid which they occur and the agencies which minister to their existence. In its purpose, therefore, it claims no originality, for there are many publications which have similar aim.

It is in its method that this work differs from others, and this difference is its most obvious feature: *i. e.*, the employment of color and the camera in a systematic attempt to make an industrial district better known; the effort to present California, not only in form, but in hue and tint; not choosing the picturesque but the industrial scene; not the features of which the artist joys to present his idealized conception, but the actual; true to topography; true to results attained by formative industrial processes; true to existence in form and color.

The employment of pictures, with and without color, to spread the fame of certain interesting localities or regions is a time-honored custom; but it has always been looked upon with a degree of distrust by those whom it was desired to impress. This seems to be the case the world over; for Prof. Grant Allen, writing in the *Cornhill Magazine* in 1878 on "Color in Painting," describes experience so pertinent, that the following rather long quotation is here presented:

If we wish to choose a summer resort for our holiday, where shall we look to see what it is really like? The very worst representation we can get (because the most incorrect) will be one of those flaring picture advertisements which we find upon the walls of railway stations. Its object is all but simply decorative; it lavishes the brightest pigments in the most impossible situations; it gives us absolutely snowy chalk cliffs, inexpressibly purple sea, and wonderfully pea-green meadows. Except that it does not probably falsify the main natural features in their general outline quite beyond recognition, it is useless for purposes of practical information.

Next in order of unlikeness to nature comes the quasi-artistic chromo lithograph. This gives us a few more intermediate colors and a little better drawing; but it still sheds a wealth of primary tints over the scene which no human eye ever met in its waking hours. We feel at once that this, too, is quite untrustworthy as a guide to the reality.

We turn to a water color or an oil painting, and we find to some extent in the latter, and much more in the former, that color is still bestowed with a generosity far exceeding the niggardly measure of nature. We really can't say whether the place will be pretty or not.

We see a very beautiful and artistic representation, in correct drawing and perfect perspective, with a glow of color that affords immediate gratification to the eye, but we feel that it is an idealization, not a copy.

Again we take up the local guide-book, and when we find a woodcut or an engraving giving us a view of the neighborhood, we are conscious that we tread at once on firmer ground. Of course the details have been exaggerated and the beauties artificially heightened, but the misleading element of color is wanting, and we know that the lines of contour cannot very widely diverge from the reality.

Last of all we get a photograph "limned by the unerring sun" and we know with certainty what manner of place we have to deal with. Though the colors of nature are omitted, we yet find it far easier to read them into the outline before us from our general experience than to read out the idealized tint from the picture of the artist. If the picture is not absolutely truthful, it is at any rate through no intention of falsifying or flattering that it goes astray. The sun never tries to make a pretty picture.

"So a photograph then is your highest ideal of imitative art?" says the critic, with that serene sneer of sarcastic inquiry for which he is so distinguished. By no means, because it is not art at all. It is merely the perfection of mechanical imitative representation, with the true element of color omitted.

The aim of this work is to employ what Prof. Grant Allen calls "the perfection of mechanical imitative representation," but to *supply* instead of omit, "the true element of color." The method of procedure has been to thoroughly photograph the region from various points of view which best discloses its characteristic topography, and to separately photograph every special feature illustrating life and labor and its results. The hundreds of photographs thus secured have been at the service of the artists in producing the plates, and each drawing bears the number of the negative which was used. In order to secure fidelity in color as far as possible the artists have visited the scenes and with the photographs in hand have noted the proper colors to apply. That the reader may judge of the accuracy of the reproduction of form it is a part of the design of the publishers to furnish the actual photograph of any scene which may particularly interest the reader; and such photographs may be ordered by the number appended to each sketch. In this feature of supplying the color and giving the fullest opportunity to verify the form as "limned by the unerring sun," originality is claimed for the work as a careful effort to secure "the perfection of mechanical imitative representation."

But why make this great effort to introduce the element of color? Why not, as Prof. Allen suggests, allow the distant readers to "read the colors into the outline from their general experience?" Simply because California is not only a land of color, but of characteristic colors, and one who has not actually observed them has no general experience which can read the true colors into a California photograph or engraving, and therefore can have no conception of the real appearance of the scene which it is desired to present.

Granting this, what in general is the service of color? Bascom, in his work on "*Æsthetics, or the Science of Beauty*," says, on page 270:

Though the entire language of the eye is furnished to the art of painting, color is preëminent among its symbols. This is the peculiar and striking characteristic of painting. Its animation, its vividness, its power over the eye and the superior impression of life are due to color.

Again on page 86 the same writer says:

While form is the basis and framework of beauty in the world, the most sensible and immediate part of the effect is often due to color. Much is appreciated through it which would otherwise remain unfelt. It lays hold more strongly of the senses, and arresting us, leads us to a more intimate knowledge of form and the more intellectual lessons there taught.

Evidently, then, the effort to present California scenes in color is not a vulgar endeavor, nor one likely to appeal alone to the immature or untutored mind, as possibly the casual critic might regard it.

So far as the writer knows, the idea of diligent and systematic effort to present the topography and the horticultural achievements of specified portions of California by a series of intimately related views in color, is original with Mr. W. R. Nutting, the designer and publisher of this work. To carry out his idea he learned the use of the camera; he then gave over a year to a most careful study of this typical district and its features great and small. He has climbed every elevation and descended every cañon in search for natural exponents which would best serve to fitly show forth the region; and he has pictured the orchard and vineyard work, the industrial structures and the homes of the people, to show how natural resources have been made to minister to industrial success.

From what has been said it will appear that the ideal of this work was high, and the labor to attain it great and faithfully pursued. How far the effort has succeeded it is

for the reader to determine. Judged by the ideal of the work it must be confessed that the end is not yet reached, but only an approximation to it which can be greatly improved upon in subsequent works, or even in later editions of this. Judged by what has hitherto been done on this coast in the line of color work on varied outdoor scenes, it can be safely claimed that nothing nearly so good has yet appeared, and in this way the work reflects due credit upon the lithographing and printing house of H. S. Crocker & Co., of San Francisco, who have heartily sympathized with the spirit of the undertaking as in the general interest of California, and have spared no expense to carry out Mr. Nutting's ideal, and to demonstrate that as good work can be done on the Pacific Coast as on the Atlantic.

Concerning the text accompanying the plates, it may be said that the effort has been to make the descriptions explicit even though they be long and cumbered somewhat with cross references. We trust that the patient reader may find his reward in a full knowledge of the chief features of the district and their relations to each other. It may be thought also that too great attention is given to specific mention of individuals and their undertakings and successes; but it must be remembered that these are factors of the great results which have been attained, and as such are entitled to credit and recognition.

The writer desires to say in his own behalf that he has no share whatever in the publication as a business enterprise; that he has prepared the text without either realization or promise of compensation, and that he does not own a foot of land within 40 miles of the district described. The motives to the effort on his part are, however, manifold;—active sympathy with the design to contribute to a better knowledge of California abroad; friendly interest in the success of the leading fruit growers of the Vacaville district, with whom he has long had the pleasure of acquaintance; and the opportunity to become better informed in the practical methods of horticulture pursued:—knowledge, which is of constant value to him as a horticultural teacher and writer, and of especial utility in the preparation of a general and practical work on California fruit growing which he now has nearly ready for publication.

EDWARD J. WICKSON.

Berkeley, California, May, 1888.

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THE VACAVILLE EARLY FRUIT DISTRICT.

ARE the people in New Orleans, St. Louis, Chicago, New York, Boston and elsewhere, who have paid a dollar a pound for California cherries in April, or who in 1887 ate nearly 2,000 car-loads of California peaches, pears, plums, apricots and grapes, curious to know whence a good part of these fruits come, or to learn the manner of their growth and the appearance of the country? It is one of the aims of this book to gratify their curiosity.

Where is the Vacaville district? The traveler from San Francisco to Sacramento passes it close by; but its chief areas are screened from sight by intervening hills. By rail its central point is 64 miles northeast from San Francisco, and 30 southwest from Sacramento, and in an air line over the many-branched coast range, it is about 50 miles inland from the Pacific Ocean. The district consists of a chain of small valleys lying along at the base of the mountains and the edge of the Sacramento valley, just to the west of the main railroad line.

From San Francisco, after crossing the Carquinez Straits, train and all, on the great ferry-boat "Solano," and passing miles of tule marshes, where from October to May often many acres at a time can be seen as white with wild geese as if with a snowfall, one comes to Suisun. From here to the "Twin Sisters," a prominent peak, in sight about seven miles northwest, lies the Suisun valley, the first in the district, which is noted as the site of the greatest general fruit orchard in the world owned and operated by one man, that of A. T. Hatch, President of the California State Board of Trade and Eastern Manager of the California Fruit Union.

Over the ridge west of Suisun valley is Green valley, with the town of Cordelia at its mouth, and the romantic Green Valley Falls shedding never-failing tears from under its eyebrows,—the great cliffs at the head of the valley.

Passing on three or four miles north of Suisun, close to the railway on the left is a high hill known by the romantic and the practical as Volcano Mountain, or Dickey's Hill, respectively. All up and down its sides may be

seen acres of limestone deposits from little mineral springs now in operation;—but never any volcano since nature concluded that California was far too big, and doubled up a hundred miles or so of her west border into fifty miles of billow-shaped mountain ranges.

Over this hill to the north extends Laguna valley, another of the chain. Passing beyond the hill on the railroad, the country soon opens out level again, and four or five miles to the northwest can be seen the town of Vacaville lying at the entrance to Vaca valley, the center of the whole section known abroad as the Vacaville early fruit district. Soon one comes to Elmira, where those who know the country change cars and go behind the hills,—into the fruit baskets.

Those who do not know it, of which there are perhaps a thousand a day passing over this road, continue on through a wheat-growing country a few miles, through Dixon and Davisville to Sacramento. Looking from the car windows between Elmira and Dixon, one sees, from four to eight miles away to the left, the low ridge of hills forming the first billow of the earth's undulations at the edge of the Sacramento plains. Behind the south half of this ridge is Vaca valley, and behind the north half is Pleasants' valley, another of the chain; and if you must have green peas, corn, string beans and other "garden sass" while yet March is acting the lion in the eastern states, go for them to the tops of the lower hills of this ridge, where the sandstone keeps the little rootlets warm over night.

From near Dixon, a little north of west may be seen a great gap in the mountain range beyond the ridge of hills just mentioned, which is the Putah cañon, through which flows Putah creek, draining large valleys in both Napa and Lake counties. Along either side of its banks from the mountain gap some five miles out to the town of Winters, is the region locally known as the Winters or Putah creek district. This district, though the starting point of the early vegetable business, from which several are said to have grown rich selling melons by the carload, has only begun fruit-growing extensively within a few years, but may, when developed, equal Vacaville in its productive area.

Also from between Elmira and Dixon the eye may locate, apparently at the far north end of the mountain range, another valley heretofore famous for wheat, hereafter, it is prophesied, to be famous for fruit; namely, the Capay valley, through which a railroad is now being laid to bring its produce down via Winters and Vacaville to the main line.

FRONTISPIECE.

(*vide* FIRST PAGE OF COVER.)

RATHER than employ conventional designs in the illumination of the first page of the cover, the artist has chosen to introduce the reader at once to the characteristic scenes of the Vacaville district, and thus give local significance to the work from the very start. This course is eminently satisfactory, for the faithful portrayal of the actual gives a result more picturesque and pleasing than any effort at the idéal or allegorical could produce. The beautiful cover page must then be described as a constituent part of the work, for aside from its tasteful ornamentation, four photographic views of valley scenes are embodied in it.

First in importance is the central landscape. It presents a portion of the valley lying north of the area shown in Plate II, west of the area in Plate III and south of that in Plate IV. It is therefore that part between the lower and upper valleys. The outlook is from the elevation known as Smith's Peak, toward the southwest. The situation and environment of the area shown will be better understood as the reader follows the descriptions of succeeding plates.

The most distant mountain line marks the crest of the Blue Mountains which here are of nearly uniform height. To the right, a short distance beyond the limits of the picture, is Vaca Mountain, an elevation of considerable scientific importance as a coast survey station, as will be mentioned in Plate II. Nearer to the observer are the foot-hills of the Blue Mountains, which, from this point of view, seem nearly of the same height as the superior range, but are really much lower. The north sides of these hills are mostly covered with brush and timber and the southern exposures bare, as will be especially noted in the comments on Plate VI. On the summits of the range there are often level areas of considerable extent, where the cattle and sheep delight to gather for the fine feed, and where much rich soil is found. But on the summits water is difficult to obtain, though on the sides many springs emerge. Considerable progress is being made in clearing these hillsides, and it is likely that the future will see large areas of them producing fruit.

Just beyond the plane of the valley a low ridge appears. It is a tapering of the north wall of the opening known as Gates' cañon, which is plainly seen in the picture and will be described presently. This low ridge extends the whole length of the lower Vaca valley, and all the way forms the dividing line between Vaca and Laguna valleys, as will be noted in following plates. It continues southward at varying elevations, from its beginning, as shown in this landscape, until, at a point three or four miles south, it attains an altitude of about 700 feet. At three places it sinks nearly to the level of the valley and gives egress to three creeks which drain the eastern watershed of the Blue Mountains, and these passes are used for roadways connecting the two valleys named. This low ridge does not enter the upper valley, which has the higher range for its immediate western boundary, as shown in Plate IV.

GATES CAÑON.

One of the most important arms of the Vaca valley is the opening in the western hills shown at the right, in the background of the landscape. It is known as Gates' cañon. In its lower extension it is a beautiful little valley. Gates cañon does not open immediately upon the large valley; but by the southward turn and tapering off of its northern wall into the ridge already described, there is enclosed quite an amount of nearly level land which has this ridge for its northeastern boundary. There is really much more land behind the ridge than one would think from the picture. In this beautiful and well-protected location are situated the home and orchards of J. W. Gates, a native of Kentucky, who came into the district in 1855. In earlier days he was engaged in stock-growing and still owns a large area of hill lands adjoining the cañon which bears his name; but during recent years horticulture has been his chief interest and he has one of the largest and best known orchards in the district, comprising 265 acres and including 140 acres of peaches, 30 of apricots, 20 of cherries, and the balance of 55 acres divided between grapes, nectarines, pears, figs, Japanese persimmons and citrus fruits. Mr. Gates also has good vegetable land and reaches the market very early with the product.

Mr. Gates began planting fruit largely about seven years ago, so his orchards are young and full of vigor. He gives us reports of his yields from different fruits which we will note in a subsequent chapter. At least two very promising varieties of peaches have originated on his place. He takes deep interest in his work and secures the very best appliances, some of which he has himself devised. He pursues the closest system in the management of his picking, grading, packing and drying. His buildings are fine and spacious and his site adorned as it is by natural and cultivated growths is one of the most pleasing in the district. A near view of Mr. Gates' residence is given in Fig. 2450, Plate XI. The location of the residence is just behind the ridge of low hills and directly beyond the buildings which appear in the valley toward the left of the landscape.

Passing Mr. Gates' orchards and proceeding up the cañon one finds the walls narrowing in, so that at the narrowest part there is little more than room for the roadway and for Alamo creek, the course of which will be noted in

connection with other plates. Passing this narrow neck, the cañon divides into two branches, on the right and left, into which roads have been built for a considerable distance. The left hand or southern branch extends about three miles between the elevations of the Blue Mountains, and large quantities of wood have been secured from it. The right hand or northern extension is the larger and has been most improved. A road winds up the cañon and on the mountain sides six or eight miles to the summit of the elevation known as Vaca Mountain. There has been much improvement on the inner slopes of Gates' cañon. One of the nearest and most accessible places is that of L. M. Frick, situated directly in front as one enters the cañon and four miles from Vacaville. Mr. Frick is a native of Pennsylvania and moved into this district in 1882. He has 160 acres of land of which about 15 acres are in young fruit trees. He also grows vegetables for market, and reports that he has picked tomatoes as early as January 1 (from old vines), and has new potatoes in February. Also on the eastern slope, facing the entrance of the cañon, is the place of R. D. March. The clearing high up on the face of the mountain is the mountain ranch of J. R. Collins, one of the early settlers, who lives on his other ranch in the valley. It is five or six miles by road from the valley to this lofty farm.

Gates' cañon, like other openings in the mountains west of the Vacaville district, is well endowed with natural beauties. The flowers, shrubs and trees will be noted in our chapter on the flora of the district. Mineral springs also abound. L. M. Frick, who has given much attention to these natural curative agencies, furnishes us the following note on this subject :

There are numerous springs in this region, nearly all of which possess mineral properties of some kind. I have been over most of the hill land within three miles of the valley from Tolenas Springs to Miller cañon and I think it is safe to say that there is not a section that does not produce mineral water. Tolenas Springs are well known. There are several mineral springs from five to seven miles northwest of Vacaville; two or three of which are well located, and will, undoubtedly, in the near future become valuable as health resorts.

A number of persons claim to have received much benefit from the use of the water of a spring on Alpine ranch in Gates' cañon, about five miles from Vacaville. The waters of this spring are purgative though pleasant, and are said to be beneficial for rheumatism and a cure for chronic dyspepsia. There is another spring about two miles farther up the cañon known as Collins' spring, and others which will become better known as they become more accessible, and as the land adjacent to them is cleared up.

THE VALLEY FRUIT FARMS.

Turning now to the features of the valley area shown in the landscape, we note first the grand solid square which extends quite across the picture from side to side. It is W. W. Smith's apricot orchard of about 12 acres area, in which are 1200 trees of exceptional regularity in size and style with scarcely a single break in a row or a defective tree in the orchard. The original photograph (No. 2270) shows this much more effectively than even the view in colors. We doubt whether there is a more perfect block of trees in the State. The orchard is of good bearing age and Mr. Smith reports

that it yielded him a net return of \$350 per acre last year from dried apricots, although he sold too soon and did not get the best prices. This year (April, 1888) the orchard promises one-quarter more crop and the fruit will bring higher prices. In the immediate foreground are other parts of Mr. Smith's orchards of which a fuller view is given in Plate III. In the lower left-hand corner are the buildings and the old fruit trees which comprised the first improvement on the land now owned by Mr. Smith. This improvement was made by Col. Dunn who settled on the place in 1853. There are apple and peach trees which were planted in 1857 still bearing heavily; the apples, though set 40 feet apart, are now interlacing their branches and have trunks from two to two and one-half feet in diameter. Many of the old peach trees have succumbed to sunburn because trained too high, but there are others in full vigor and indicate that a well-cared-for peach orchard is durable property in California. The old dwelling is still in good condition and is occupied by Mr. Coy, who is in the employ of Mr. Smith.

Along the farther side of the apricot orchard runs the road which leads from Vacaville to the orchards on the east side of the upper valley, which will be described in Plate IV. On this road the first orchard at the right of the landscape is owned by W. H. Buck, who also has a place in the upper valley as described in Plate VI. This orchard of 20 acres was planted by Mr. Wycoff and purchased by Mr. Buck as described in Plate II. It comprises 12 acres of peaches, 4 of table grapes and 4 of apricots. Mr. Buck reports an average net income from this place in 1887 of \$250 per acre; some parts producing as high as \$550 per acre, and some as low as \$50.

The next place on the left, along the road, is the 20 acre orchard and vineyard of I. K. Buck. Mr. Buck came to California with the excursion of Knights Templar a few years ago, and found his cousin Senator L. W. Buck doing so well in Vaca valley, that he concluded to cast his fortunes in the same line. His decision probably influenced his brother W. H. Buck to follow suit, and then Frank Herbert Buck and Charles Buck, sons of I. K. Buck, also took up their abode in the valley. As the Buck name will appear so frequently in our record of deeds in the valley a picture of the Buck genealogical tree would not be out of place among the other fruitful trees which we show, but we shall have to trust the reader to follow the relationships from the notes as given in the text. The place of I. K. Buck is well set with trees and vines, the oldest of which are now five years of age. He has lately constructed a good two-story house and seems to have no reason to regret his exchange of the Empire State for California.

Diagonally across from Mr. Buck's is a pasture field showing the characteristic autumn color, which contrasts well with the green of the orchard and vineyard. This is one of the few pieces of bare land in the valley. It has been locked up in an unsettled estate and could not be sold. It could have been bought, when Mr. Smith began on adjoining land in 1873, for \$60 per acre, and is now worth \$300.

Across the road from this piece is the home and orchard of E. S. Pinkham, who has 30 acres in fruit in good thrifty condition. Mr. Pinkham came into

the valley seeking health and good investments, and has fortunately secured both. Beyond Mr. Pinkham's place passes the road which crosses the valley and connects with the road north and south along the west side. At the junction of these roads is the school house of the Alamo district,—the building nearest the left side of the picture. After passing the school house, the northern road, which leads to Pleasant's valley and Putah creek, skirts along the base of the hills and the western edge of the orchards. On the west side of this road, and visible in the picture is the residence of John B. Cory, who has a 30 acre peach and nectarine orchard. His trees are thrifty and well cared for. His product of dried nectarines, New White variety, was about three tons dried from 200 four-year-old trees. About half a mile from Mr. Cory's and beyond the limits of the picture, on the west side of the road, is Mrs. Mary Allen's place, and opposite is the orchard of Mr. Alex. Long.

FRUIT SHIPMENTS FROM VACAVILLE.

The scene, Fig. 2350, is a common one, in fact can be seen almost daily from the middle of May until the first of October. It is the loading of a fruit train at the railway station in Vacaville. There are two trains out daily, morning and afternoon. In shipping to San Francisco the latter is preferred because the fruit reaches its destination during the night, and is ready for distribution early in the morning. The cars to be filled with fruit are brought to Vacaville and side tracked the day before, and loading begins early on the day of departure and concludes just before the starting of the train. Some large growers have three teams hauling, and lines of laden wagons waiting their turn for unloading sometimes reach half a mile from the station up through the main street of the town. The view shows the style of these wagons, with their slatted sides raised high to carry a large amount of fruit. The springs must be strong, for as much as three tons of fruit is sometimes hauled at a load. The canvas covers exclude the dust, and the buggy top or the stationary umbrella protects the driver from the heat.

Cars being loaded for eastern shipment stand upon a different side track from those destined for California points, and loading is of course a much more important and careful operation. The boxes are elevated so that air may pass between them, and they are piled and fixed in place by the most careful bracing, to prevent injury from the continual jarring during the long transit. Sometimes five or six cars per day went east from this town during the season of 1887.

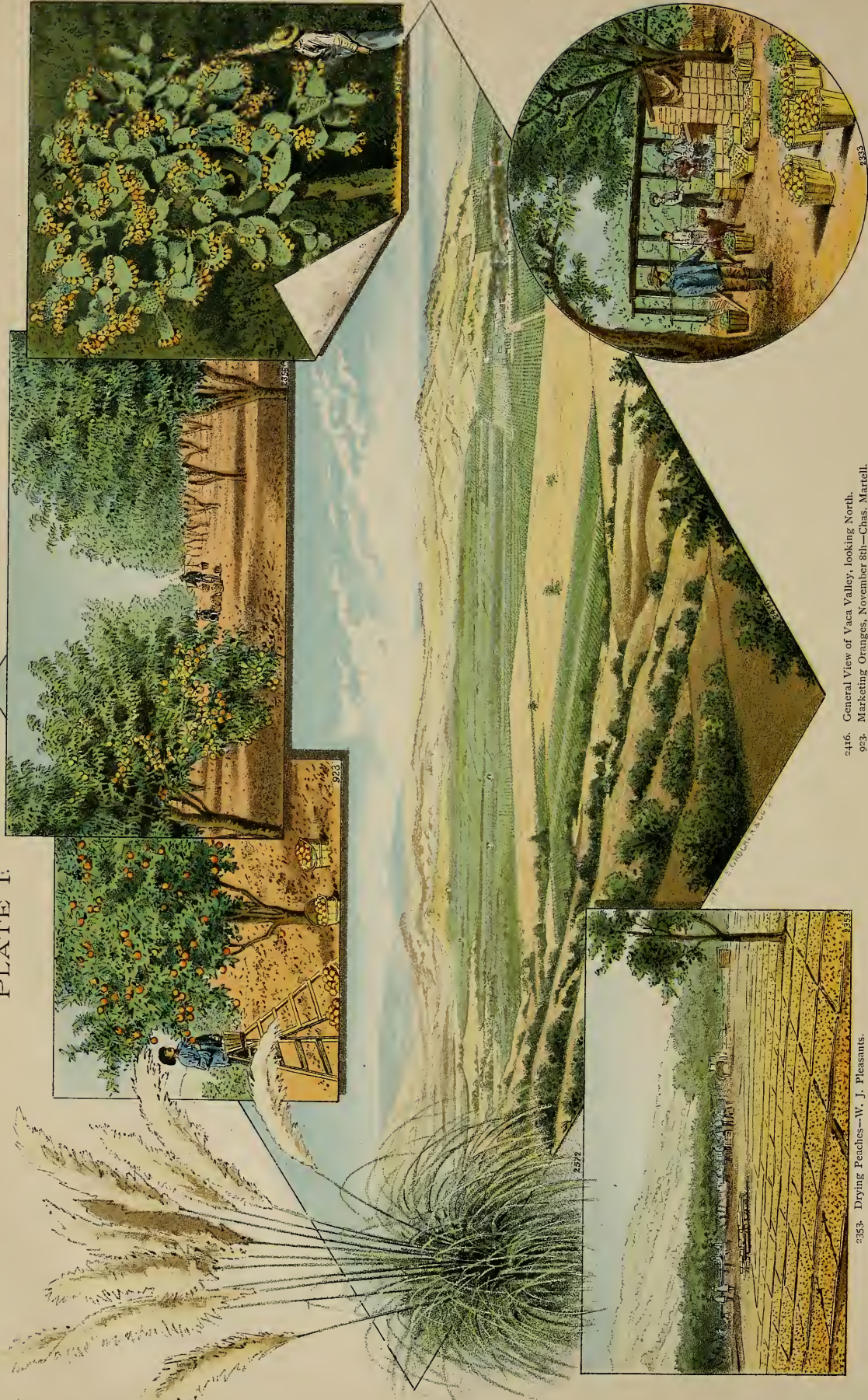
The following figures show the shipments of fruits and vegetables from Vacaville during the last seven years :

YEAR.	POUNDS.	YEAR.	POUNDS.
1881 - - - - -	7,653,457	1885 - - - - -	13,119,583
1882 - - - - -	8,424,606	1886 - - - - -	17,653,229
1883 - - - - -	10,707,361	1887 - - - - -	20,001,976
1884 - - - - -	11,906,215		

Other shipments from the Vacaville District are made from Suisun and Winters, as will be noted in connection with following plates.

The Beautiful.—Though we trust the reader will find much that is beautiful in the plates of this work, in the perspective, in the coloring of the distant hills, or even in the refreshing verdure of the orchard expanses with the cloud shadows playing upon them, it is to be feared that the commercial idea, which is of course at the basis of arrangements for production, will too far intrude to please one who seeks the beautiful merely for its own sake. No commercial cloud however overhangs the delicious piece of form and color which the artist gives us in portrayal of "The Basin" in Miller cañon, Fig. 956. Miller cañon is a deep depression in the western boundary of Pleasants' valley, as may be seen in Plate VIII. As the picture of "The Basin" shows, it is possessed of scenes of great natural beauty. The use which the artist makes of this feature of the district in designing the frontispiece of this work may, we trust, be taken as an exponent of the higher life and thought of the people. As the beautiful trees embowering this pretty pool are thrown below, behind and above the indications of active industrial life, so let it be understood that though we shall speak of the Vacaville district almost wholly from an industrial point of view, the pursuit of wealth which is so successfully followed is not in most cases for wealth for its own sake, but for the culture, enlightenment and other attributes of noble living which wealth secures if rightly used.





2416. General View of Vaca Valley, looking North.
 923. Marketing Oranges, November 8th—Chas. Martell.
 2353. View in F. B. McKeivitt's Peach Orchard.

2333. Packing Fruit for San Francisco—L. L. Hatch.
 2354. Prickly Pear—W. J. Pleasants.

2573. Drying Peaches—W. J. Pleasants.
 2572. Pampas Grass.

PLATE I.

General View of Vaca Valley.

THIS view is taken from a hill about two miles south of Vacaville. The valley runs southward to the base of this hill and then turns southeastward and debouches on the great plain of the Sacramento valley, a portion of which is seen on the extreme right of the engraving. The point selected by the artist for this view is about 700 feet above the valley, which in turn is about 200 feet above tide water.

For the following general outline of the country covered by this view we are indebted to the able pen of Dr. H. Latham : *

Vaca valley is the largest of the valleys composing the Vaca district, being nine miles long, and from two to three miles wide. Its western boundary is formed by the high Coast Range, which gives complete protection from the ocean winds. On the three other sides it is encircled by a line of high bluffs or hills. The direction of the valley is north and south and parallel to the Sacramento valley. The slopes of the hills on each side of the valley present arable land of variable width, but averaging about a mile. The average width of the arable lands, valley and foot-hill, is four miles, which gives an area of 36 square miles of land in this valley alone.

There are two creeks that run almost the whole length of Vaca valley. Alamo creek rises in Gates cañon, high up on the Coast Range, and runs through the western portion of the valley, and breaking through the eastern rim of the basin, is lost in the tules of the Sacramento valley. Ulatis creek rises at the head of the valley, and, running along the eastern side, through the town of Vacaville, makes its way through the eastern hills to the plains below. All along the foot of the hills there is a complete system of springs of clear, pure cold water, which goes to make up these two streams. Along the banks of these streams is a green border of native trees, vines and flowering shrubs of great beauty. The surroundings of this valley are as beautiful as any

* *Record-Union*, Sacramento, July 16, 1887.

mountain region affords. To the west the Coast Range rises into rounded domes, and along the eastern sides, toward the dwellers of the valley below are presented groves of oak and evergreen trees, deep shadowy cañons, high cliffs, and uplifted ridges of rocks of fantastic shapes.

North of Vaca valley, separated by a low water divide, is Pleasants' valley, which is six miles in length, and has a width varying from one to two miles. Its surroundings are much the same as those of Vaca valley. The high Coast Range rises to an altitude of 3,000 feet to the west of it, and to the north, east and south there is a line of foot-hills separating it from the valley of the Sacramento. Pleasants' creek rises in the south end of the valley and flows north, and, after being joined by several small confluent from the Coast Range, it joins the Putah creek. This valley is narrow and tortuous, and presents a more varied surface than Vaca valley.

North of Pleasants' valley is the valley of Putah creek.

The above description ends with an allusion to the Putah creek region which extends eastward from the most distant mountain in the view out upon the plains on the right of the picture. This important region will be fully considered in connection with Plate IX. Pleasants' valley, lying at the foot of Putnam Peak, the higher of the two sharp peaks a little to the left of the center of the engraving, will be more particularly shown and described in Plates VII and VIII.

Upper Vaca valley lies to the west of these two sharp peaks and will be shown more in detail in Plates IV, V, and VI.

At the farther edge of the orchards in sight on the plain is the elevation known as Smith's Peak, in front of which is the fine residence and orchard of W. W. Smith. From this peak the views appearing in the orchard view upon the front cover and the landscapes on Plates III and IV are taken.

THE TOWN OF VACAVILLE

Lies at the extreme right of the picture. It is situated at the southern extremity of the range of low hills which form the eastern boundary of Vaca valley. Vacaville was settled and the town laid out in 1850. The town was named after Manuel Cabeza Vaca, a Spaniard, who deeded to William McDaniel the land for a town-site, one of the conditions being that the town should bear his name. The business houses are located on the west side of Ulatris creek and include the variety of stores and shops demanded by the rich district tributary to it.

In 1869 the Vaca Valley and Clear Lake Railroad was constructed to connect Vacaville with the C. P. R. R. at Elmira, a distance of only $4\frac{1}{2}$ miles, giving railroad communication with all parts of the United States, by which fruits and vegetables are shipped to California and eastern markets, the road being constructed to meet the demands of this trade. In 1876 the line was extended to Winters in the Putah creek region, the town of Winters lying at a point in the picture directly over the site of Vacaville and in an air line about 13 miles distant. In 1877 the line was extended to Madison and it is now graded and the track being laid some 30 miles further through Capay valley, which threatens in future to rival Vaca valley as a fruit district.

The Board of Trade of Vacaville comprises the following members : A. M. Stevenson, President ; W. B. Parker, Vice-President ; F. L. Platt, Secretary ; Ed. Fisher, Treasurer. Board of Directors, W. B. Parker, W. J. Dobbins, G. N. Platt, O. Garlichs. This Board is affiliated with the California State Board of Trade, with G. N. Platt, of G. N. Platt & Sons, the enterprising real estate agents, as member of its Executive Committee.

Vacaville has the advantage of good schools and churches. One public school building called the "Ulati," is a handsome brick structure, which cost \$14,000, and is said to be the finest school building in the county. A view of this building may be seen in Plate II.

Another institution of learning is known as the California Normal College. The building is a two-story brick, is substantially built, and contains an office for the principal, four commodious recitation rooms, a large assembly hall, also suitable for public exhibitions, and a room devoted to library and museum purposes. The institution during the past year has been under the management of Rev. H. W. Chapman, assisted by Philip S. Woolsey, to whom we are indebted for the interesting chapter on the flora of the district, which will be found in Part II of this work.

The following are the churches of Vacaville with their pastors ; Congregational, Rev. H. W. Jones ; Baptist, Rev. J. M. Saxton ; Christian, Elder Faulkner ; Presbyterian, Rev. Mr. Edmunds ; Catholic, Father Devlin ; Episcopalian, Rev. Mr. Breck, of Suisun.

Vacaville has several fraternal societies—Masons, Odd Fellows, Independent Order of Workmen, Parlor of the Native Sons of the Golden West, etc.

It contains three hotels. Among them the Davis House ranks first and is located at the east end of the main street, as one enters the town from the depot.

The *Vacaville Reporter*, published every Thursday by James D. McClain, editor and proprietor, is a fitting exponent of a progressive region.

The Bank of Vacaville has a capital stock of \$100,000, with a paid up capital of \$40,000 ; R. D. Robbins, President ; W. B. Parker, Vice-President ; Edward Fisher, Cashier ; Directors, R. D. Robbins, D. Dutton, W. B. Parker, E. R. Thurber, L. W. Buck. This bank was established in 1883.

VALLEY FRUIT FARMS.

This Plate, giving as it does a general view of the lower valley, shows how large a proportion of the land is already planted with trees or vines as represented by the green shades. The unplanted areas in the foreground are wheat stubble and comprise 300 acres or less, some of which is held in its present condition at a valuation of \$400 per acre. As a rule throughout the valley trees and vines have followed wheat in occupation of the land. Before the wheat-growing era began the valley was thickly studded with oaks, of which now but few remain here and there, as may be seen in the following plates. On the wheat stubble in the center of this plate are four of these grand

old oak trees, and a nearer view of one of them is No. 2459, Plate III. The trees in the foreground, on the hills, are live oak, laurel and buckeye. These and other trees and plants comprising the local flora of the district will be enumerated in the botanical chapter in Part II. The hills in the immediate foreground, the orchard at the foot of hills and a part of the unplanted area beyond it, is included in the Wm. Butcher place of 900 acres purchased in November, 1887, by Mrs. E. P. Buckingham for \$100,000. Mrs. Buckingham gave the place the pretty name Araquipa rancho (signifying "Land of Rest,") cut it up into 60 small farms of 5 to 20 acres each, and offered it for sale at public auction through Easton & Eldridge and G. N. Platt & Sons, on April 21, 1888. The matter attracted considerable attention and resulted in the disposal of about half the land for \$114,000, when the sale was stopped. This transaction gave Mrs. Buckingham outright about half the ranch and a profit besides, as a reward for her confidence in the desirability of Vaca valley property. That this confidence is shared by others is shown by the fact that the purchasers were largely experienced fruit-growers of the district, among them A. T. Hatch, W. J. Dobbins, H. A. Bassford and others. The average price per acre for the land sold was \$275, considerable of it being hill land. There is but little bare land left in the valley and the residents think so well of it that they buy it up themselves whenever opportunity offers.

Between the wheat stubble and the town are the large orchards of ex-Senator W. B. Parker, Vice-President of the Bank of Vacaville. His fine residence is very near the town and his 200 acres, all planted in orchard and vineyard, encompass the town-site on the south. He has 70 acres in peaches, 60 in French prunes, 30 in apricots, 20 in grapes, and 20 in Bartlett pears. But a small part of Mr. Parker's orchard is shown in this Plate, as it extends about half a mile beyond the limit of the view toward the right.

The north line of the property of W. B. Parker is the Suisun road, which is apparent as it crosses the wheat stubble to the left from Vacaville. Just beyond the road is the Wilson tract of 147 acres of orchard and vineyard, recently purchased at \$600 per acre by Hon. L. W. Buck and his two sons F. H. and F. M. Buck. The place, which is managed by Frank H. Buck, includes 35 acres of shipping grapes, Muscats and Tokays, which, at three years old, yielded about five tons to the acre; 45 acres of peaches, which, at three years old, yielded about two and one-half tons to the acre; 30 acres of French prunes and 30 acres of Bartlett pears, which are now (April, 1888), beginning their fourth year's growth and show some fruit. In the planting of his place by Mr. Wilson, the different kinds of fruits were so arranged that in laying it off in small tracts each subdivision should have a variety of fruits. The tract adjoins the town on the west and a continuation of the main street of the town will constitute a fine avenue through it. It also has a long frontage on the Suisun road and on Orchard avenue, a thoroughfare which will be farther mentioned in Plate II. This productive property now owned and operated integrally by Messrs. Buck & Sons, may some day comprise a fine series of small orchards and villa sites, for which, owing to its proximity to town, it is well adapted.

Beyond the Wilson tract are the places of Dr. Dobbins and Messrs. Wycoff, Blake, &c., as shown in the next plate, which is a view from right to left across the center of this view.

HILLSIDE FARMS NEAR VACAVILLE.

Beyond the town of Vacaville, on the slopes of the hills immediately north of the town are several small orchards owned by Dr. J. S. Cunningham, Dr. P. Cargill and others, residents of Vacaville, and Col. J. L. Lyons of Oakland, whose country residence surrounded by orchards is shown in No. 2406, Plate X. Further up on the hills near the base of the elevation about a mile north of the town, known as "Rocky Peak," are the places of B. F. Newport and John B. Vine. Mr. Vine has 36 acres, of which 30 acres are in an assortment of fruit. He also grows vegetables between his trees which give him good returns. The richness of the soil and the abundant moisture of the district seems to encourage this inter culture, and it is practiced by many while the trees are below bearing age.

In the depression in the hills known as Gibson cañon, about in the center of the plate, and two or three miles north of Vacaville, lie a number of the earliest fruit and vegetable ranches of the region.

First on the right as one enters Gibson cañon from the south, is the place of Samuel Johnson of Vacaville. Above Mr. Johnson's is the orchard of T. R. Knox of San Francisco.

Next beyond Mr. Johnson's, on the road, is the farm of G. W. Gibbs, who has 35 acres in a variety of fruit, and also produces early vegetables. Mr. Gibbs finds that in his experience, early vegetables on early foothill land often pay better than the same number of acres in fruit.

Adjoining Mr. Gibbs on the north is A. J. Lyon's 30 acres of bearing trees and vines. About one half are nine years old and the balance just coming into bearing. Mr. Lyon's selection of varieties of fruit is good, and includes the most profitable sorts, which cover a long season, but he finds the earliest varieties give the most profit. Mr. Lyon is engaged in the real estate business in San Francisco and has made a good reputation for enterprise and activity.

O. Garlich's and James T. McMurtry, who compose the real estate firm of Garlich's & McMurtry of Vacaville, also have farms in this section. Mr. Garlich's has 83 acres of which 30 acres are in peaches, 25 in grapes, 12 in apricots, 5 in cherries, and 8 acres equally divided between nectarines, figs, pears and prunes. He also grows vegetables. Mr. McMurtry has 65 acres, of which 20 are peaches 12 apricots, 25 grapes and the balance in cherries, figs and pears.

Next beyond Mr. Garlich's farm is the Coulter place of 76 acres, purchased in 1887 for \$15,000, by Frank B. McKevitt, who already owned a valley farm and bought in the hills to secure earlier fruit, and thus have a longer season of employment for his hands, and with the expectation of shipping fruit from the two places, from about April 15th to November 1st, in each year. On the Coulter and Garlich's places, and others adjoining there is sometimes soft sandstone lying at the surface, and it has been found that trees thrive in holes

excavated in this sandstone by the use of a pick. An oak tree three feet in diameter was recently cut down, after attaining this size by growing in this material. This out-cropping of sandstone is only occasionally met with, as the soil of the vicinity is said to average about 16 feet in depth, even to the top of the hills.

All of the foregoing places lie on the east side of Gibson Cañon. On the west side there are three roads leading into as many arms of the cañon. Beginning with the branch road nearest Vaca Valley, the farm in the corner is that of Charles Rogers, formerly of the Palace Hotel Drug Store in San Francisco, who recently bought this place of 88 acres for about \$350 per acre. Looking to the left from the corner of the road just mentioned, the beautifully situated orchard of Robinson Brothers appears on the eastern slope of the elevation known as Smith's Peak,—though from this point of view, one gets no idea of the abruptness which characterizes the valley side of this uplift. Robinson Brothers are becoming famous for shipping the first cherries from the district, during the last two years, gaining a day over some other growers. They have 208 acres, of which 156 are planted with the following fruits: grapes, 69 acres; peaches, 43; apricots, 30½; plums, 5; pears, 4½; cherries, 3. They also grow vegetables. On the same slope above the Robinsons, Robert Park and Mrs. P. Lyon have orchards in good bearing condition.

From the corner of the second road, leading to the left, to the extreme top of the highest hill in sight, is the 104 acre farm of Mrs. M. P. D. Jagger, whose experience is a creditable instance in the success of a woman's enterprise in horticulture under California conditions. The farm was bought before her husband's death, which occurred during a visit to the east, leaving her with three little children under 3½ years old, and with this place mortgaged for every cent it would have sold for at the time. Fortunately her husband's life insurance was sufficient to meet the mortgage, but she thought it better to use the money in improving the place, contrary to the advice of Eastern friends. She returned to California with the children, and has now carried on the place for 9 years alone. She has planted 20 acres of fruit trees, and 20 acres of vines, about all of which are now in bearing. In 1887 she sold 2,100 22-lb. boxes from 500 four-year-old apricot trees, at an average of 65 cents per box. Her net income from the place was \$3,700 in 1886, and \$3,000 in 1887, and about \$5,000 is expected in 1888. During the season she sends off three or four big loads of green corn daily. In 1887 she had 14,000 tomato plants, and received 80 to 85 cents per box for 500 boxes to go to Oregon between June 30th and July 20th.

On the same branch road beyond Mrs. Jagger's is Mrs. R. Schroeder's place called "Inglennook," with 37 acres in fruit, in good bearing. North of Mrs. Schroeder's, and approached by another lane from the main road are the places of Mr. J. V. Stark and Mr. A. Steiger. Mr. Steiger names his property "Oak Glen Farm," and has in all 111 acres, besides his valley place, which will be mentioned in Plate II. On his hill place he has about 40 acres in orchard and vineyard, and 40 acres of vegetable land, from which he makes early shipments.

The general location of Gibson cañon is also shown on Plate VI, in which the view is from the northeast.

FRUIT FARMS NORTHEAST OF VACAVILLE AND IN THE SACRAMENTO VALLEY.

About one mile north of Vacaville and east of the hills, on the road to Winters, is the orchard of H. Scott, who has found his fruit ripening about as early as in Vaca valley. A mile and a half beyond is the orchard newly set out by D. B. Derby, who has traveled all over the coast in the interest of John Rock and the California Nursery Company. His selection of this site for an orchard after such opportunities for observation is certainly a point in favor of the region. He has planted 40 acres within the last two or three years, besides selling fifty or one hundred thousand fruit trees annually. Just beyond Mr. Derby's, Mrs. Troutman has 35 acres of orchard, and Mr. Van Weinen 20 acres. Two miles further north is Brown's valley, where C. W., G. S. and D. G. Brown have each orchards of good age and in full bearing.

In places all along in this region extending from Vacaville to Sweeney creek is land of good quality held by various owners, and suitable for fruit, which can be had in small tracts on easy terms, and at much lower prices than Vaca valley lands.

Leaving the Winters' road at Mr. Derby's and riding westward to the hills one reaches the 55 acre fruit and vegetable ranch of David Dutton, who is one of the pioneers of Vacaville, and now a resident of the town. He has 39 acres in fruit, and would have planted all his remaining land to apricots this year if he could have obtained the trees, notwithstanding the fact that his tomatoes and early vegetables bring very high prices. Adjoining Mr. Dutton is the orchard of W. R. B. Kidd, a pretty place and noted for extreme earliness as well as Mr. Dutton's—both places lying well up on the warm eastern slope of the hill range overlooking the Sacramento valley.

SMALL VIEWS.

Pampas Grass—Fig. 2572.—This popular ornamental plant is to be found in many gardens in the milder climates of California. A few years ago large quantities were grown in Santa Barbara for eastern shipment, and much profit gained thereby.

Ripe Oranges in November—Fig. 923.—The picture shows the gathering of ripe oranges on the place of Charles Martell, situated on the west slope of Putnam peak, which is visible in the distance, to the left of the center of the main picture. He was picking oranges for shipment on November 8th, at the time the photograph was taken. This fact shows the earliness of citrus fruits in favored localities in Northern California.

Scene in the Peach Orchard—Fig. 2356 A.—This beautiful scene is in the peach orchard of F. B. McKeivitt in the upper Vaca valley as shown in Plate V. The main variety is the Susquehanna, but a single tree of Piquet's Late was introduced by mistake of the nurseryman. The picture was taken after the Susquehannas had been gathered, yielding about 200 lbs. to the tree.

The tree of Piquets shown in the picture yielded 260 lbs. The trees were six years old. They had been thinned of their fruit, as Mr. McKevitt believes in thinning a four-year-old tree so it will bear four boxes of 25 lbs. each—a five-year-old, six boxes; and six-year-old, eight boxes. The trees are shapely—a good illustration of the best California style of a peach tree. In the distance are Chinamen gathering peaches and bringing them to convenient places for loading on the trucks.

The Prickly Pear—Fig. 2354.—A handsome specimen of the prickly pear, or as it is usually known in California by its Spanish name *tuña*. It is a native of California, occurring wild in the southern part of the State, and introduced in favored regions in the upper part of the State. It grows readily from its thick leaves when partly buried in the ground, and without water. It resists drouth and will endure considerable frost. The *tuña* fruit was growing at the old missions in California, and after the discovery of gold was sold in San Francisco and the mining camps at good prices until choice fruits were grown. The leaves of an allied species are used as cattle food in Mexico and in Texas, the short spines being burned or crushed off from the fleshy leaves, and animals thrive upon them. It is also used to a certain extent in Mexico as a hedge plant and forms an impassable barrier to live stock. The specimen shown in the picture is growing on the place of W. J. Pleasants, in Pleasants' valley, and was started by him from a leaf 15 years ago.

Fruit Packing—Fig. 2333.—The picture shows the usual method of packing fruit for shipment to San Francisco on the smaller fruit farms. The Chinese picker is bringing in Muscat grapes which he has just gathered, and the grapes and peaches are being packed by the members of the grower's family. The very slight shelter shown in the picture is quite enough to keep off the sun, and during the main fruit season there is no danger of rain. On the larger ranches, the fruit is brought in on trucks and the packing house is a more pretentious structure, as shown in exterior and interior views on following plates. The picture in this case was taken in the orchard of L. L. Hatch, upper Vaca valley. Plate V.

Drying Peaches—Fig. 2353.—The splendid sunshine of the Vacaville district favors open air fruit drying, and fruits are spread out by the acre in the large orchards as will be described in the chapter devoted to that subject. The scene is on the ranch of W. J. Pleasants, in Pleasants' valley. Sometimes an open space is selected for the drying floor, sometimes the fruit spread between the trees as shown in Plate II.

PLATE II.



1150. Vacaville Public School.
 1180. Vacaville from the East.
 1208. Vacaville Orchards, West from Vacaville.
 2311. Fruit Drying Among Orchards and Vineyards.
 2333. Peach Gathering.
 2398A. Interior Views at H. A. Bassford's Packing House.
 2399.

PLATE II.

View Westward across Vaca Valley, from near Vacaville.

THE landscape shown in this plate is from a view taken from a low hill just north of the town of Vacaville and the outlook is westward across the valley, the distance from the point of view to the base of the hills opposite being about two miles. The landscape as presented by the artist includes about twelve hundred acres of valley land of which all, except necessary building spaces, yards and roadways, is planted with trees or vines. The view across the valley at this point is one of rare beauty. The rows of trees and vines are for the most part continuous though they pass from one ownership to another as they advance. There are few fences, the roadways in the older orchard area are embowered in foliage and the whole country has the appearance of a grand fruit garden. Looking across the valley the natural objects on the lower hills, though over two miles away, appear with surprising clearness. This is one of the most striking facts which the new comer encounters and is the result of the clear, dry atmosphere of California. Many a time a tourist, trusting his eye to indicate distance, has started on foot for some apparently near destination and is surprised at the time required to reach it.

Beyond these first low hills in the background is the northern extension of Laguna valley. The central depression in the distant hills is a small valley called Walker's cañon in which is the romantically situated orchard of James Parker, and at the mouth of this cañon is the farm of W. P. Buckingham; near by are G. M. Gates, B. F. Christopher and Sidney C. Walker, all of their places being in Laguna valley which will be more fully considered in connection with Plate XI. Through this neighborhood runs the most direct road from the upper Vaca valley to Suisun. Over this road all the produce of this valley and Pleasants' valley were hauled to Suisun for shipment, before the building of the railway to Vacaville.

DISTANT POINTS OF INTEREST.

Beyond the limits of the landscape to the left is the entrance to Bassford's cañon, a famous early cherry region, which will be more fully described in Plate X. At the right of the landscape may be seen the entrance to Gates' cañon, which is better shown in the orchard view on the front cover, as already described.

The first range of the higher hills in the background of the picture varies in height from one thousand to twelve hundred feet. These hills are quite well covered with several species of oak, nut pine, buckeye, laurel, manzanita and other native growths, as are most of the higher hills shown in other plates. The soil even to the tops of these hills is generally rich and of considerable depth in some places.

The most distant range in the plate is known as the Blue Mountains. On the highest point which is 2,395 feet above sea-level, there is a station of the U. S. Coast and Geodetic Survey. A road is projected which will reach the crest of this range from Laguna valley, passing the famous Tolenas Springs and continuing along the crest to the government station, whence a magnificent view, extending even out upon the Pacific Ocean, can be had. The road will return by way of Gates' cañon and enter Vaca valley at a point just on the right of the area shown in Plate II.

There is much productive soil even to the top of the Blue Mountains, and much government land has been taken up and improved, as the clearings visible from the valley testify. Occasionally living springs are found, and in many places water can be obtained by sinking wells.

In the immediate foreground of the picture may be seen a part of the west bank of Ulati creek, which has during recent years cut its way twenty feet deep showing the continuous depth of the valley soil. In early days the Ulati was but a shallow water-way which could be crossed at almost any point. The feeding off of the dense growth of wild oats and the clearing of the watershed of this and other vegetation, has resulted in a quick flow of water to the creek which has cut its channel deep in the mellow soil. This has occurred in the recent history of many other California streams. On the opposite side of the valley, as marked by the large trees, runs Alamo creek which rises in the distant hills on the extreme right of the picture and flows out upon the valley through Gates' cañon as has been already noted.

Crossing the foreground is the road leading from Vacaville up the valley. There has been recently opened through the center of the valley, a fine, wide thoroughfare known as Orchard Avenue. About two miles from Vacaville its northern end makes connection with the old road.

FRUIT VS. WHEAT.

The beautiful stretch of valley land shown in Plate II is especially interesting because it was here that the yellow resisted longest the advance of the green; it was here that Ceres, in the person of her faithful votary, a prominent pioneer whom we shall mention presently, outstood longest against the advances of Pomona. But it was a stand against the inevitable and Ceres withdrew to the broad expanse of the Sacramento valley, but even there she each year yields new fields to progressive Pomona, as will be shown in the discussion of following plates.

We allude here to this contest between fruit and wheat because the greater part of the valley land in Plate II was owned from pioneer days down

the year 1880 by Dr. W. J. Dobbins and was used by him as a wheat farm for about twenty years. He speaks freely of his failure with wheat as compared with his success with fruit so we violate no confidence in using his experience as illustrating in a certain way, the two regimes of Ceres and Pomona in many of the valleys of California. Dr. Dobbins is a native of Kentucky and purchased 1,200 acres of valley land shown in the plate and much hill land adjoining, in 1854. He came to Vaca valley to grow stock; the abundant rainfall and the rich soil gave a growth of wild oats which he says he has seen by the hundreds of acres tall enough to tie across a horse's back. It was a stock-growers' paradise. But the profit in cattle declined and the wheat industry arose. Dr. Dobbins began wheat-growing, in 1861, with a grand outfit of animals and machines. For a number of years wheat-growing was profitable, but the turn came and during the decade from 1870 to 1880, losses exceeded profits. Dr. Dobbins still kept large flocks on his hill lands and upon his stubble fields, and though these paid well and did something to recoup his losses on wheat, his losing financial course continued. In 1880, he sowed 1,900 acres of his own and rented land, and though there was 19 inches of rain that year, he was \$10,000 poorer than when the crop was sown. It was at this point that Dr. Dobbins drew the line in his pursuit of wheat. He sold off that year 780 acres of valley land and 560 acres of hill land, the whole bringing \$84,000. This land, according to recent rates for bare land, would be worth something like \$300,000, or, if covered with bearing orchard, upwards of \$500,000.

After this enforced sacrifice of part of his property he still retained 235 acres and this he began planting with fruit trees. He had had his eye on fruit for some time. J. W. Gates, another pioneer of the valley to whom allusion has already been made, had long talked fruit as a means of profit, and the fact that his neighbor, W. W. Smith, had paid off a debt of \$10,000 when his main source of revenue seemed to be 3,000 young apricot and peach trees, gave him much ground for thought. Dr. Dobbins freely admits the weight of such indications in showing him the way to retrieve his fortunes which sank so low in wheat-growing, and only wonders that he was so late in taking the hint. For he had within his own boundaries objects which were silently suggesting fruit as the proper crop for the soil. In the immediate foreground of Plate II, between the creek bank and the road, stands a clump of fifteen pear trees which he planted in 1868. They grew well and bore regularly, cheering him with their delicious fruit when he returned wearied from his profitless wheat fields. Part of these trees have been recently cut back and grafted over and yet the yield from the fifteen was 4,300 pounds of pears last year. These pear trees ten years ago were actually worth more to him than his whole ranch as income bringers. Dr. Dobbins wonders he did not sooner read their lesson.

The recourse to fruit with 200 acres planted now places Dr. Dobbins in comfortable financial condition and with a grand outlook. Only a part of his produce last year was 36,000 pounds of dried apricots and 12,000 pounds dried peaches which brought him \$5,430 though sold too early to get the high rates ruling later in the season. Besides these he had other dried fruit.

and all the dried fruit product together is from fruits not suitable for delivery to the canners, with whom he has a contract covering several years and which gives him excellent returns. The following are single instances of receipts from specified products: 42½ acres of apricot trees, five years old, yielded \$3,600 for ripe fruit and \$4,140 for dried fruit, or a gross yield of \$7,740, of which he calculates \$4,800 was net profit. Six hundred Salway peach trees, four years old, yielded from sale to canners \$737 and from sale of dried fruit \$160. These returns from trees so young give some idea of income from well-kept orchards when the trees attain greater size. We specify these facts because on the same land sown to wheat the income had been for several years less than the expenditure.

In the foreground of the landscape in Plate II stands the residence of Dr. Dobbins. It is a substantial two-story brick building, capacious and well appointed. Its environment of shade trees gives grace and comfort. His outbuildings on the right, and concealed by the inroad of the corner picture, are large and substantial. His faith largely rests for the future in fruit-drying and he has early made excellent preparations for extensive and systematic work during the present year. The following letter from the largest eastern dealer in California fruit shows one of the results of the climate of this district.

CHICAGO, Nov. 8, 1887.

W. J. DOBBINS, Vacaville, California.

Your very kind remembrance in the shape of a box of French prunes was received, and permit me to thank you for the same, for I assure you that they were very nice in every respect. I gave them to various members of our club and to quite a number of prominent people here in Chicago, as samples to try, telling them they were the products of your ranch at Vacaville, and they were unanimous in the opinion that they were as fine as anything they had ever tasted from France or any other foreign country; in fact, a great many of them seemed to be surprised, and said they did not think this product could be grown to attain such high excellence of flavor in the State of California; that their ideas were that products of this delicious nature were confined almost exclusively to the south of France. It shows you that your State, even though well known in the past to a great many people, is as yet comparatively unknown to the masses.

Very respectfully,

WASHINGTON PORTER.

ADJOINING FRUIT FARMS.

We have spoken of the rows of trees being continuous across the valley. The alternations in size in the rows mark the place of younger trees and in some cases indicate a change in ownership. The large plantation at the left of the picture, in which the lines appear to be oblique to the general direction, is a part of the Wilson tract to which allusion has been made in Plate I. The nearer pieces of oblique rows near the foreground are a part of Dr. Dobbins' farm.

On the low hills beyond the valley orchards is the place of Capt. R. H. Chinn, whose residence is seen on the elevation near the center of the landscape. His tasteful residence and his 128 acres of trees and vines are noticeable from

all points in the lower valley, and appear especially well in the vista which one gets by looking through the main street of Vacaville toward the western hills. Capt. Chinn has 7,885 fruit trees and 39,400 grape-vines, the whole collection including the most popular and profitable varieties. Capt. Chinn believes there are advantages in the hill places, and reports that, though his trees do not produce wood as fast as the valley trees, the earlier ripening of the fruit, and the fact that they bear all the trees ought to mature, is a compensation for the lesser growth. His grapes, shipped in 1887, were among the first to leave the valley, and the first shipment returned \$75 per ton.

From Orchard Avenue, near the large house at the left, a road passes in front of Capt. Chinn's place, around the base of the hill into Laguna valley. On this road are the farms of William Towson, G. C. Wooster and Mr. McDonald.

Returning to the central part of the valley, and beginning on the left, the first two-story house is that of John L. Wycoff, a pioneer who came into the valley in 1850, and has been a resident ever since. He first planted the orchard two miles farther north, now owned by W. H. Buck, as already mentioned in connection with our Frontispiece. Mr. Wycoff placed a price on this orchard which he thought higher than a purchaser was likely to accept, but Mr. Buck had a higher idea than he supposed of the value of valley orchard, and the correctness of his judgment is shown from the fact that his net return from the place in 1887 was \$250 per acre. Mr. Wycoff's unexpected sale compelled him to plant another orchard. He has 12 acres, planted in 1885, with peaches, grapes, apricots, pears, plums and prunes, choosing his varieties to ripen in succession, to enable him to use his labor to best advantage.

Beyond Mr. Wycoff's and extending to the limits of the picture on the left, is the orchard and vineyard of Joseph Blake. He has 110 acres all planted with trees and vines, the main varieties being peaches, pears and table grapes. Last summer the peaches, apricots and nectarines made a good return as four-year-olds, and this year his plums and pears will also come in with a crop. Mr. Blake expects (April 10, 1888) to harvest this year 200 tons of fruit from his 110 acres of five-year-old trees and vines. Mr. Blake's residence is situated on the bank of the Alamo, near the foot of the hill, and is concealed from view by the fine trees of his orchard.

Mr. Wycoff's residence, already mentioned, is on Orchard Avenue, and adjoining him on the north is I. N. Pierson, whose fine, two-story house is, apparently, at the end of the division line between the oblique rows of the Wilson tract and the direct lines of Dr. Dobbins' orchard.

On the east side of Orchard Avenue are the orchard and vineyard of A. Steiger, who has $24\frac{1}{2}$ acres in fruit, including $2\frac{1}{4}$ acres of grapes, 600 apricot trees, 600 Bartlett pears, 800 peach, 200 plums and 200 cherries. The trees are part three and part four years old. Mr. Steiger purchased this place last year at \$600 per acre, because he thought it a bargain, though he already had 111 acres in another part of the district, as mentioned in Plate I.

Next north of Mr. Steiger is Mr. Hamilton Glass, who has $27\frac{1}{2}$ acres, on which are 2,900 trees, apricots, peaches, pears, plums and nectarines, three and four years old. From 800 peach trees of these ages he sold the fruit in 1887 for

\$800, at the low price of $1\frac{1}{2}$ cts. per pound. As prices ruled he could have done much better by drying his own fruit, but it is sometimes of great advantage to a small grower to dispose of his crop for cash to be handled by some neighbor who has capital and facilities for drying. This is one of the benefits of location in one of the older fruit districts.

On the west side of Orchard Avenue, opposite Messrs. Steiger and Glass, are Henry Loud's 16 acres, and 22 acres owned by R. M. Campbell, planted in part with fine shipping grapes, and with orchard fruits including apricots, peaches, prunes and pears. Next to Mr. Campbell's are $21\frac{1}{3}$ acres belonging to Frank J. Bassford, who reports 800 four-year-old peach trees yielding 32 tons of fruit last year and his four-year-old vineyard of shipping grapes yielding about 6 tons per acre.

Next is Henry Bassford's valley place consisting of 60 acres, about all planted, with about 18 acres in shipping grapes and the balance peaches and nectarines. Mr. Bassford's records show what these old wheat lands are doing in fruit. He reports his net returns from commission houses for sale of green and dried fruit from the 60 acres in 1887 about \$20,000; the running expenses of the orchard, handling the fruit, etc., he estimates at \$4,000, which gave him a net return of about \$16,000 from 60 acres or \$266 per acre. Mr. Bassford's orchard with its packing and drying facilities is a busy place in the fruit season. Glimpses of these operations are given in the small pictures on this plate as will be described presently.

Adjoining Bassford's is the well-kept orchard of J. A. Webster, who laid aside an important financial position in Alameda county last year to engage in fruit-growing, to "regain health and to make money," as he states it. He has 46 acres all in fruit, of which 18 acres of peaches, 15 acres of pears and 7 of apricots are the chief divisions. Mr. Webster purchased a bearing orchard and shows by his figures that good bearing orchards are cheap even at a price which seems high, because of immediate returns and the profitable use of capital which they offer.

North of Mr. Webster's are the places of E. I. Upham and P. Reardon, and adjacent is the place of S. Z. Hartshorn, who has 10 acres in orchard and 10 acres in vineyard. Mr. Hartshorn bought his place in 1886 and has the distinction of being the first to pay \$400 per acre for three-year-old trees and vines. Since that time, however, much higher prices have been paid and considering this advance and the increased age of the trees and vines, he estimates his place worth twice what he paid for it. The year he bought the place he sold the grapes *on the vines* for \$60 per acre and last year for \$100 per acre.

On the extreme right of the landscape and fronting on the county road is the orchard of W. N. Lamb, who has 39 acres adjoining Dr. Dobbins and 17 acres a little farther north. He purchased the land and planted out one-half of it five years ago. Since then he has raised his own trees and planted out the balance of the place. Mr. Lamb's experience is interesting as showing what a man can do who has some money and plenty of energy, though he has had no previous knowledge of fruit. There are other such cases in the valley,

but we happen to have notes of Mr. Lamb's progress and so use them for an illustration. He had money to get the land and some trees and planted these trees in 1883. While the trees were growing he sustained himself and family by keeping poultry and working for his neighbors part of the time. From his 100 hens he got probably an average income of fifty cents per day through the year. In 1886 he gathered \$500 worth of peaches from 1,000 trees planted in 1883. In 1887 he sold his fruit for \$3,600, of which he calculates \$2,000 was profit as he was able to pay \$900 on his place, build a new packing house, make a trip back east, etc. He believes in growing crops between the trees the first year to help out income if one needs it.

North of Mr. Lamb's, on the road crossing the valley to Orchard Avenue are Messrs. J. W. and R. E. Burton, Charles Packard and Mr. McCauley of San Francisco.

FRUIT HARVESTING.

The smaller pictures on this plate, aside from the two upon the left, illustrate practices of fruit gathering, drying and packing for shipment to distant markets.

Peach Gathering—Fig. 2323.—The picture shows peach gathering in Henry Bassford's orchard, though the picker was, unfortunately, on the other side of the tree at the time the view was taken, and omitted in the sketch. Aside from the portly forms of the fruit-growers, whose identity we will not disclose, but whose stalwart proportions show that fruit-growing is a good business for other portions of human anatomy than the pocket, the interest in this picture centers on the orchard truck, with its load of peaches. This is the most approved vehicle for conveying the fruit from the pickers to the cutting-shed, where it is peeled and pitted, and laid on trays for drying, or to the packing-house, where it is put up for distant shipment. As shown, these trucks are low, with small, wide-tired wheels, and, usually carry about 1,000 lbs. of fruit. The pickers gather in the square baskets of the form shown, made of splint sides, board bottom, the whole held together with wooden "hoops," securely nailed, and the basket containing about 25 lbs. of fruit. In smaller orchards, where no trucks are used, the Chinese pickers bring in the baskets with a shoulder-carrying pole, as is their usual way of bearing burdens. This is shown in Fig. 2333 and Fig. 2356, A of Plate I; also, in Fig. 2388, Plate VI.

Packing—Figs. 2309 and 2308, A.—These views represent different parts of the packing-house in Henry Bassford's orchard. The former represents packing for eastern shipment. Placing before him the package to be filled, and near by the basket of fruit as it comes from the tree or vine, he uses care in the selection of specimens of the right degree of ripeness, throwing out those which are too ripe, and they are sent to the cutting-shed, to be prepared for drying. Fruits for eastern shipment, excepting grapes and cherries, are wrapped singly in soft paper, and fitted closely into the package, the cover being pressed down with a foot-lever press, while nailing, to prevent shaking during transportation. Grapes are packed in splint baskets, holding about five pounds each, four baskets being enclosed in a crate. The packages piled up before the building

are the grape crates. On the left of them is the sawn material for crates or boxes. It is shipped from the box-making establishments in "shooks," and the boxes set up in the packing-houses. In packing grapes, care is taken to select out all crushed or decaying berries, the packer usually having scissors for clipping them out. Over-large clusters are divided so as to fill the basket well to prevent shaking. In the Figure 2308, A, the fruit is shown in greater profusion, the pickers having evidently gained considerably on the packers. The baskets are overflowing with most luscious red-cheeked peaches, and rich Muscat and Tokay grapes. No artist can give, in such limited space, an adequate idea of the beauty of the fruit heaped up in these packing-houses, nor the tireless activity which prevails while a car-load is being made up. Other facts concerning the packing will be given, in connection with other pictures.

Drying Peaches—Fig. 2311.—This interesting scene is located in the orchard of Mr. Hamilton Glass, who sold his crop of 1887 on the trees to Mr. Henry Bassford as already stated. The land being all set to trees or vines the inter-spaces must be used for a drying-floor. The fruit is spread on trays, and the latter placed directly upon the dry, warm soil-surface. In large orchards the fruit thus exposed may be measured by the acre.



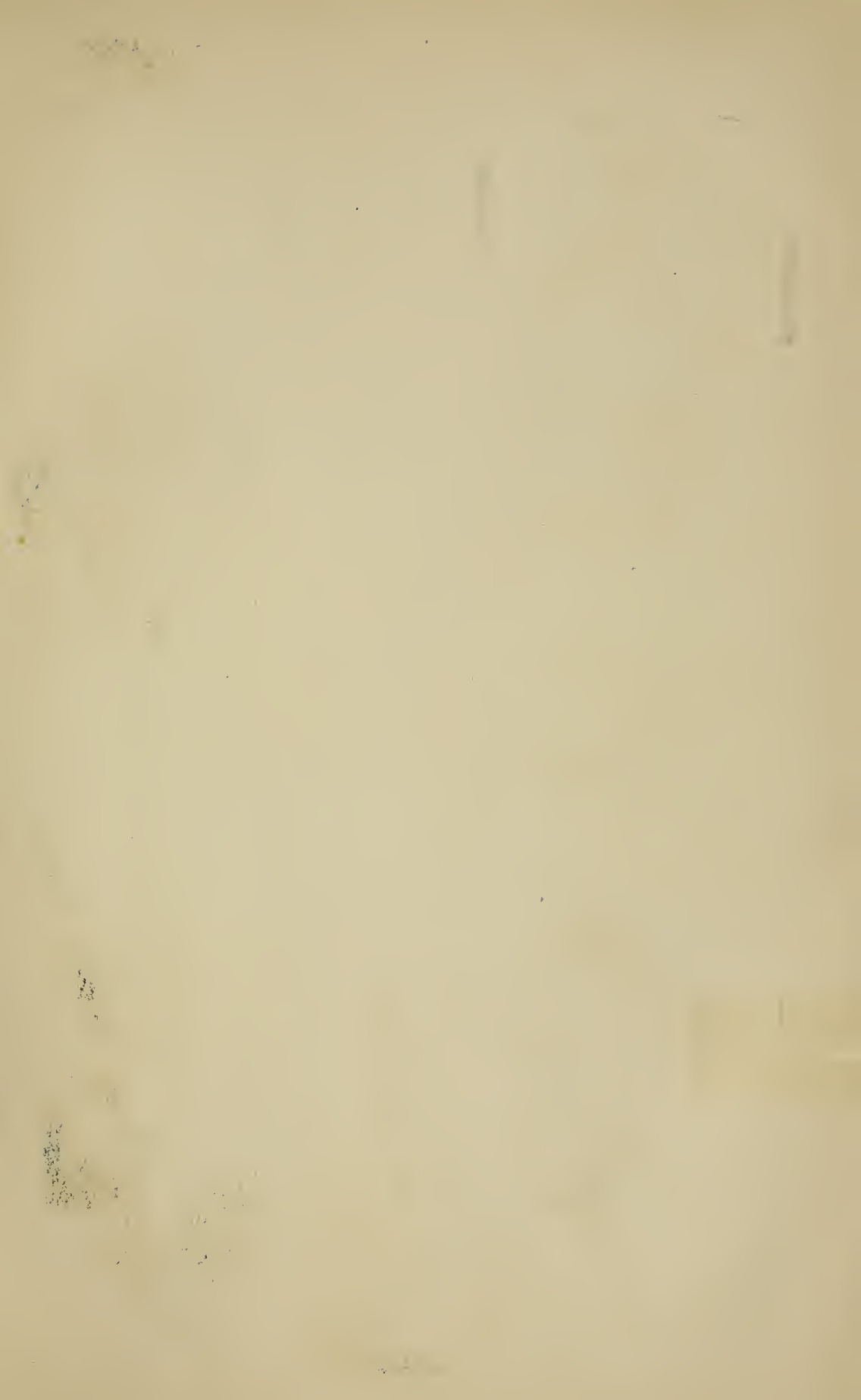


PLATE III.

2459. Lower Vaca Valley—Smith's Peak, South to Vacaville.
2460. Residence of W. W. Smith.
2461. Ripe Oranges, December 14th.
2462. Cutting Apricots at W. W. Smith's.
2463. Weeping Oak.
2464. Four year old Apricot Orchard.
2465. Moorpark Avenue.

2269. Lower Vaca Valley—Smith's Peak, South to Vacaville.
2265. Residence of W. W. Smith.

2268A. Cutting Apricots at W. W. Smith's.
2459. Weeping Oak.

2409. Four year old Apricot Orchard.
2260. Moorpark Apricots.

PLATE III.

Vaca Valley Looking Southeast from Smith's Peak.

THE landscape on this plate is taken from the summit of Smith's Peak, the nearer of two pointed elevations which appear a little to the left of the center of the landscape on Plate I. The view from this point is toward the southeast, almost at right angles with the direction of sight in Plate II, thus disclosing the breadth of the valley at that point. A little to the left of the center of the landscape in Plate III, lies the town of Vacaville, about three miles distant, and the geographical relation of the lower valley to its shipping point is clearly shown. Beyond the town, the opening out of Vaca valley upon the great Sacramento valley is seen. About at the horizon the main overland line of the Central Pacific crosses. To the right, upon the high, round hill, is the point of view from which the landscape in Plate I was taken, and still farther to the right, beyond the lower hills, lies Laguna valley, which will be shown in Plate XI, the point of view for that Plate being upon the distant, round-topped hill on the extreme right of Plate III.

Smith's Peak, which takes its name from the distinguished fruit-grower whose orchards lie encircling its base, on the south and west, is the western extremity of a bluff, which, running nearly east and west, narrows the valley, and furnishes a convenient landmark for separating the Vaca valley into upper and lower divisions. It was with the idea of securing a warm, southern exposure, sheltered from north winds by this bluff, and from the westerly winds by the Blue Mountains, which, opposite this point are very high, which induced W. W. Smith to select this place when he was prospecting for a situation for early cherries. He was a cherry-grower in Napa, but found his crop reaching market too late to secure the highest prices. So early as 1868 he had his eye upon his present location, but did not secure it until 1873. Mr. Smith was really the pioneer grower of fruits on a commercial basis in the lower Vaca valley. In earlier days, the hill lands were alone thought suitable for fruit. Later, orchards began to thrive in the higher parts of the upper valley, and it

was a new departure when Mr. Smith boldly began horticultural arts on the wheat stubble of the lower valley. His success has enriched him, and given his family a beautiful home, and all needed comforts. His example has pointed to many others the way to wealth, for the lower valley has almost its entire area planted with fruit, as has been shown.

W. W. Smith is a native of Kentucky, but when 20 years of age he moved to Illinois. He was a horticulturist by profession, having had experience in Illinois, and on arriving in California, in 1864, chose the same line of work by establishing an orchard and nursery in Brown's valley, Napa county. His reason for removing to Vacaville district has already been stated. He secured his land at \$60 per acre in 1873, and only had \$3,400 to pay down upon it. He proceeded at once to test his main idea by planting 36 acres of the best and earliest varieties of cherries, in 1874, and provided for immediate income by planting vegetables and nursery stock, both of which yielded profitable results. Fortune smiled upon him, for, unexpectedly, in 1875, a June rain brought a volunteer crop of watermelons, of which wagon-loads were sold at very remunerative prices. But the building up of his enterprise required constant labor, expenditure and courage, for, as fast as temporary crops yielded means, the orchard planting was continued, until ere long, more than 200 of his 260 acres were planted with orchard fruits and table grapes, of which nearly the whole area is now in bearing condition. The following is an enumeration of his acreage in different fruits: Cherries, 40 acres; grapes, 30 acres; peaches, 75 acres; plums and prunes, 15 acres; pears, 20 acres; apricots, 35 acres, besides a smaller acreage of nectarines, figs, apples and other fruits, including a few thriving citrus fruits.

We do not know of an orchard in California where uniformity and shapeliness of trees, obtained by constant adherence to a system in training, can be better illustrated than in Mr. Smith's orchards. Of course, all trees are not treated exactly alike, for the habit of growth of each is duly considered, but still there is adherence to a general plan, the object of which is to secure low and accessible trees; trees which shall be free from injury by excessive sun-heat; trees which can sustain a heavy weight of fruit safely, etc. The perfection of form in his oldest cherry trees is notable. At our last visit their branches, arching on a uniform curve throughout the row, were densely covered with bloom, forming a snowy canopy, beneath which one could stroll leisurely, and dream of paradise or profit as his mind inclines.

Mr. Smith has been a prominent member of the State Horticultural Society ever since its organization, and his remarks on pruning and shaping trees, which have been widely published, have been of inestimable value to the later planters in all parts of the State as a guide in their orchard operations.

Mr. Smith has been very successful as a fruit-grower. The early returns from his apricot and peach trees, with other sources of immediate income, soon cleared away the debt he incurred in purchasing the land. The increased return from these trees as they grew older, and the grand receipts from his cherries, soon gave him ample means for improvements. These included an elegant residence (shown in Fig. 2255), which is said to have cost \$15,000. It is a

beautiful dwelling with many spacious rooms, and is furnished throughout in a most tasteful manner. His barn is shown in the background of Fig. 2268, A. It is said to have cost \$5,000. Aside from these items, the farm is supplied with a complete outfit of working animals, implements, etc. And, besides these visible betterments, investment has been continually made for the drainage where needed, and the property kept up to first-class condition as a business undertaking, conducted generously and enterprisingly.

Returning to the landscape on Plate III, a portion of Mr. Smith's orchards are seen in the immediate foreground. Nearest to the hill are the large cherry trees, and on the right of them the family residence, mostly concealed in the foliage, while the barn clearly appears in the foreground. Beyond the cherries are apricot and pear orchards, extending to the line of high trees which cross the landscape from right to left. These are fine, large, California black walnut trees, which line the road to Vacaville, as far as Mr. Smith's frontage extends. The trees furnish the traveler on the road an agreeable sight, and, at the same time, catch much dust, which otherwise would drift over upon the ripening fruit. The picture only shows a portion of Mr. Smith's orchards, as they extend continuously to the westward beyond the limits of this Plate, as can be seen in the landscape on the Frontispiece, where the 12-acre apricot orchard, one of the most beautiful horticultural achievements in the valley is portrayed.

In the immediate foreground of Plate III, a clear space is seen, with a gentle slope toward the southwest. This is Mr. Smith's drying-ground. It is about two acres in extent, and just before fruit-drying begins, it is carefully cleared of dead grass and swept to remove dust. Thus it becomes hard and clean. It is at the base of a steep hillside, and a long distance from the main roads, and well situated to get all the sun-heat and to escape the dust. It constitutes a solar drier of vast proportions. As we saw it, last August, it was of variegated hues, as the peaches spread were both of white and yellow sorts. Those who beheld it when the ground was densely covered with apricots, describe it as a sheet of gold. The photograph (2269) was taken when the apricots were drying.

At the foot of the slope is situated Mr. Smith's cutting-shed (Fig. 2268, A). In the foreground are the filled trays ready for spreading out on the drying-floor, and back of them the group of fruit-cutters at work. Mr. Smith employed a large force of young people in fruit-cutting last summer, as did the other growers in the valley, and they made excellent wages all during the apricot and peach season.

Mr. Smith has a group of orange trees growing near his house, of which one of the smallest is shown in Fig. 2496 as the space would not admit a larger one. Ripe oranges are gathered from December to April. During the exceptionally severe weather of January, 1888, the trees did not lose their leaves, nor was the fruit hurt, except a few specimens on the outside not sheltered by the foliage. The black scale does not thrive in the Vaca Valley climate, for trees infested with it when planted, soon become clear. Mr. Smith believes that if he had planted out an orange grove when he first came upon the place it would have yielded him much profit.

SMALL FRUIT RANCHES.

Beyond the Vacaville road, which crosses the landscape, and is located by the line of Mr. Smith's wayside walnut trees, are a number of smaller fruit farms, which were planted after the sale of the Pierce tract in subdivisions, about five years ago.

The first place beyond the road, and just to the left of the outline of the oval sketch, is owned by Mrs. P. H. Barrows. She has 20 acres, of which about one-half are planted with peaches, and the balance apricots, pears and nectarines. Some of the orchard has been lately planted to take the place of vines, which will soon be removed. In 1887 there was sold from twelve acres \$1,200 worth of peaches, apricots and grapes—the fourth year from planting.

The next place beyond is Sears and Clarke's. They have 40 acres, all planted with fruit, including 11 acres of pears, 10 of grapes, 8 each of apricots and peaches, 1 of cherries and 2 of French prunes. A view in their vineyard is given in Fig. 2388, Plate VI. They have gathered over 13 tons per acre from Zinfandel vines, four years from the cutting, and some of their four-year-old peach trees produced an average of 200 pounds of fruit, which sold at 3 cts. per pound, equivalent to a return of \$648 per acre. Messrs. Sears and Clarke keep their orchards in excellent condition, and have shaped their trees well, as may be seen in Fig. 2409, of Plate III, which gives a glimpse of their apricot orchard, as will be described presently.

Beyond Sears and Clarke's is the 20-acre orchard of Mrs. S. E. Healey, and beyond that, toward the hill, is the Hartshorn orchard and vineyard mentioned in Plate II.

Returning, now, to the Vacaville road in front of Mr. Smith's, as marked by the large walnut trees, and proceeding toward the left, the first place is that of R. P. Duff. It is 20 acres in extent, and includes 5 acres of Royal apricots, 5 of peaches in variety, 5 of pears, plums and prunes, and 5 of grapes. The place was planted five years ago with dormant buds and cuttings, but the vines were re-planted the following year, so the trees are four years old and the vines three. The place was leased in 1887 by Rev. C. F. Coy, now of Willits, Mendocino County, and he secured 12 tons of peaches and 1,200 boxes of grapes, which, taken in connection with the ages stated, gives some idea of what a young orchard and vineyard will do. This year (1888) Mr. Duff has been planting out Muir and Salway peaches among his grapevines, intending, in two years, to remove the vines. Many growers are thus changing from grapes to peaches and apricots, believing them more profitable. Directly beyond Mr. Duff's, in the line of sight, are the places of L. M. Gough and John Bradley.

On the extreme left of the landscape, and still near Mr. Smith's line of walnuts, is the point where Orchard Avenue enters the Vacaville road, being the northern terminus of the former, as stated in Plate II. On the right-hand corner, as you turn southward toward Vacaville, is the place of Mrs. E. Grover, who has one of the prettiest little cottages in the whole region, and 16½ acres of fruit. Adjoining is the 16½ acres of J. W. Burnham. These places were planted out at the same time and are much alike. Each has 400 apricot trees,

800 peach, 100 pear and 300 plum—all four years old in 1887, when the 800 peach trees yielded about 12 tons, and the 400 apricots yielded 4 tons, which sold to canners at \$1.60 per hundred, delivered at Vacaville. This year the prospect is for twice as much fruit, and it is already (April, 1888) sold to canners at 2 cts. per lb., both peaches and apricots. The trees are so full that in thinning the fruit was pulled off by the handful. Mrs. Grover has a good example of the barrel method of growing strawberries for family use; the barrel being filled with soil, and the plants set into holes bored in the sides. The yield is reported good.

On the left-hand corner of Orchard Avenue is the place of Joseph Murray, a painter of Vacaville. To the left of this, but just beyond the limit of the landscape, is the orchard of G. W. Allen, who moved into the district from Holyoke, Mass., a few years ago.

The landscape in Plate III, aside from the large holding of W. W. Smith, includes the area in the heart of the lower valley, which is chiefly made up of small fruit farms. The lower portion of the same area is shown in Plate II. Since these places were planted the land has doubled in value, without considering the added value of bearing trees and vines, and many of the owners are taking from their trees each year several times as much per acre as the land cost them five or six years ago.

MINOR VIEWS.

The three small sketches at the left of the plate are all from photographs taken on Mr. Smith's place, and allusion has been made to them.

California White Oak.—The Fig. 2459 presents a view of one of the grandest native trees of California. The specimen chosen is not one of the best of its kind, but it serves to display some of the characteristics of the species—*Quercus lobata*. We cannot find better language to word a tribute to this grand tree than that of the late Dr. A. Kellogg, which we quote:

"Of all the trees of the grove, for robust and sturdy dignity of character, nay, majestic elegance and manly pose, for freshness and for variety of expression, in body and branch, twig and leaf, none excels the summer-green White Oak of the valleys and plains of the Pacific. Main trunk mostly short, five to ten feet or more in diameter; fifty to one hundred feet high, or even more; huge limbs, duly balanced and distributed, diverging at broad and varied angles from massive forks; branches with flexed elbows, hither and thither, or bent and contorted in all directions. * * * The great cloud-like masses of foliage are, as it were, often in first, second and third-storied tumuloid groups, yet never towered, seldom somber in any species, least of all in this; even the most remote approach to formality suggests no monotony, for the long drooping branches bend archwise, like the grand and eloquent American elm, still preserving their self-reliant ease, strength and grace, neither rough nor rigid. These elegant sprays or wreaths are seen descending low, or lying along the ground, doubly lining the lawn, twenty to forty feet long, of nearly uniform size, like large curtain cords, somewhat simulating the Weeping Willow, but not with the despairing droop of the sad Willows of Babylon; nay, rather drooping robes of royalty. * * * We repeat, with ever-increasing emphasis, our wonder at the wealth of foliage, massed above, curtained below, pouring with unparalleled bounty foliage on foliage, in great heaps upon the ground, as

though it were not enough to canopy and cloud the sky and the horizon round about, but these sweet, fragrant, summer-green White Oaks must needs carpet the earth in softer living green beneath our feet, and luxuriously couch and pillow the pilgrim devoted to sylvan beauty." *

It will be seen that our engraving does but scant justice to the tree. The fact is, the best specimens which abounded in the upper Vaca valley, have fallen beneath the woodman's axe, and the oaks still surviving in door-yards, as shown in Figs. 1075, 2475 and 2357, have been trimmed up for convenience. Those which now survive are only the smallest of the race, or those found least in the way. The grand old patriarchs have fallen, and many of them yielded from 50 to 60 cords of wood each as the woodman's reward.

Apricots.—Fig. 2260, which serves to adorn the upper corner of the plate, is a branch from a Moorpark apricot. It shows the grand size of this variety. Unfortunately, this king of apricot varieties is shy in bearing, and for this reason gives way to another ruler, the Royal, which, though of inferior size, is more constant and profitable. In the lower right-hand corner is a scene in the four-year-old apricot orchard of Sears and Clarke. It is a view typical of the best kept apricot orchards of the district, the trees being uniform in size and shape, the foliage brought low, the ground wholly free from grass or weeds. The boy in the foreground has not a "split cot" beside him, as might be supposed. He has a watermelon; they do admirably in the valley; they grow so fast it takes a smart boy to catch them, and yet they spring up so freely on their own account from seed of melons which rotted the previous year, that the small boy gets all he can encompass by heading them off or turning them into a fence corner. The darkey's idea of paradise is a place where the watermelon is a weed. It is even so in California, where the cultivator cuts them all summer in the orchard.

* The Forest Trees of California, by Dr. A. Kellogg, page 56.



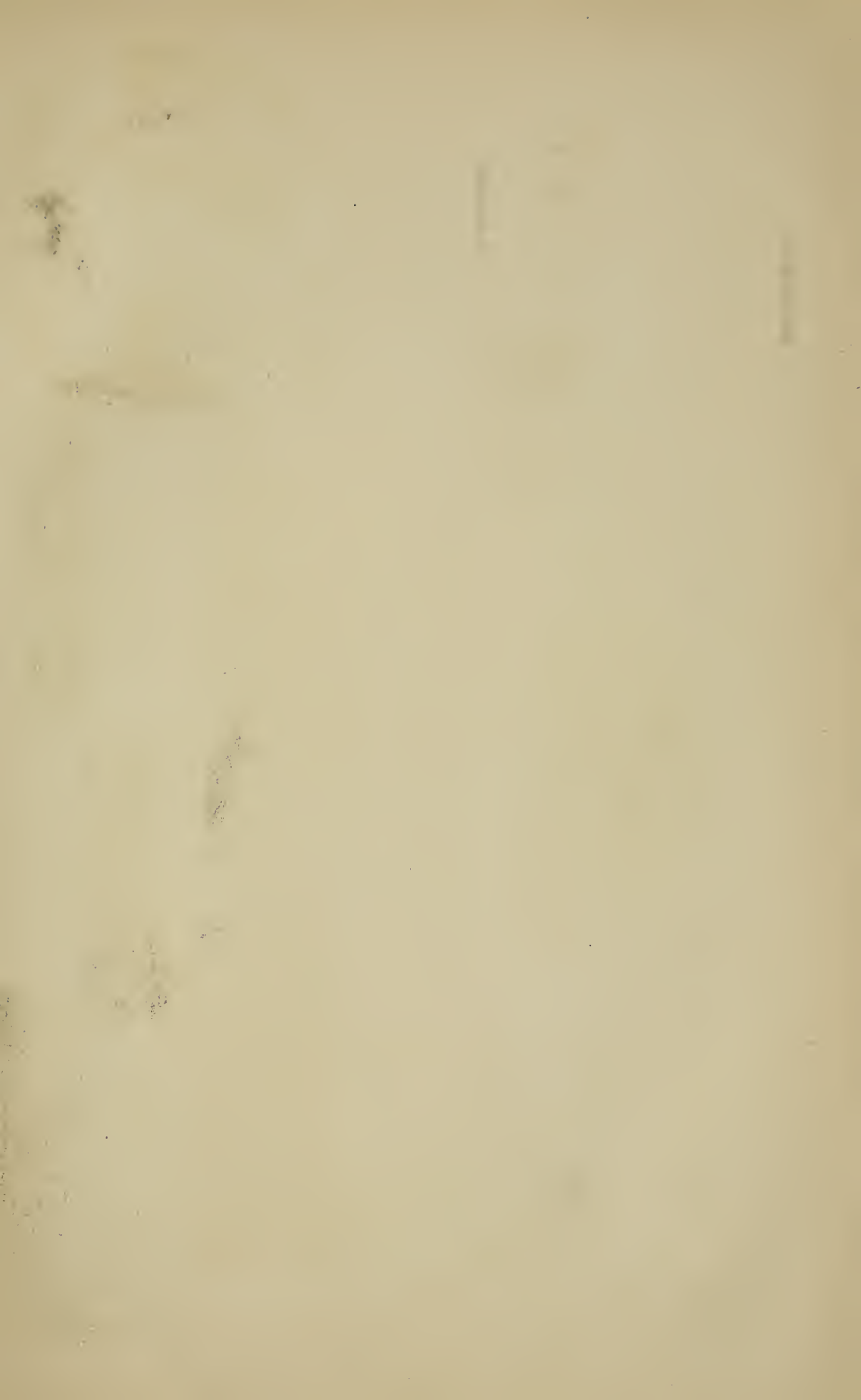
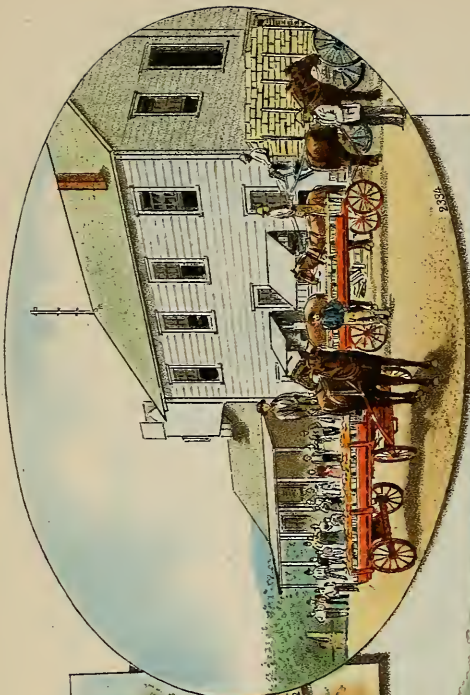


PLATE IV.



2095- December Colors in Upper Vaca Valley.
View Northwest from Smith's Peak to
Weldon Canon.

2342- Four year old Peach Orchard—L. L. Hatch.

856- Tokay Grapes in November.

909- Petunias in November.
2473- Marzanita, "Little Apple."

PLATE IV.

Upper Vaca Valley Looking Toward the Northwest.

THIS plate is from a photograph taken from the summit of Smith's Peak looking toward the northwest. The colors are those of December. The relation of the point of view in this plate to the landscape shown can be learned by reference to Plate VI where Smith's Peak can be seen a little to the left of the center of the picture.

The gap in the hills in the background of this plate is Weldon cañon, which takes its name from the former owners of the fine property at the mouth of the cañon, which is now owned by ex-Senator L. W. Buck, and which will be more fully shown in Plate VI. Out of Weldon cañon flows Ulati creek, and its course diagonally across the landscape is shown by the large trees. The mouth of Weldon cañon is about $5\frac{1}{2}$ miles from the town of Vacaville. The extent of valley land shown in this plate is about four miles in length by a little less than one mile in width.

The gap in the enclosing hills on the right of the landscape, disclosing the Blue Mountains beyond, is Miller cañon which opens out into Pleasants' valley as shown in Plate VIII. This cañon takes its name from M. R. Miller who established in early days what is known as the Pioneer Ranch, the property of Mrs. G. M. Blake, as will be described in connection with a later picture. Mr. Miller is now a resident of Vacaville.

In the foreground there first appears a portion of the beautiful stretch of orchard and vineyard of 187 acres owned jointly by Hon. L. W. Buck and his son Frank H. Buck and operated by the latter. Just north of this is the 55-acre orchard belonging singly to Frank H. Buck; and with his own and the firm property he thus has nearly 250 acres in his charge. The property reaches across the floor of the valley from side to side, at one end, and up and down the valley a considerable distance. Frank H. Buck is a young man of celerity and vigor in his action and of good business endowments. He was one of the Honorary Commissioners appointed by the State Horticultural Society to represent California at the New Orleans World's Fair and discharged his duties with credit.

The 250 acres of orchard just mentioned is divided among the different fruits as follows: peaches, 100 acres; grapes, 50 acres; pears, 50 acres; apricots, 35 acres; nectarines, 10 acres. The greater part of these trees were planted in the spring of 1882 and consequently have been bearing large crops for several years. The 187-acre piece was bought in 1881 at \$100 per acre and planted out in the spring of 1882. We are assured that when three years of age the vines netted \$50 per acre; peaches, \$75 per acre; nectarines, \$75 per acre. At four years the peaches netted \$150 per acre, the vines \$90, the nectarines \$150 and the apricots \$200 per acre. Last year, the fifth year since the planting of the trees and vines on this 187 acres, the yield of fruit and grapes was much greater than in any year before and prices for dried fruit exceptionally high. For example, 90 acres of peaches yielded an average of \$350 per acre.

The 55-acre piece was bought in 1886 with bearing trees and vines at \$500 per acre and the crop of 1887 itself went a long way toward paying for it. These facts give a little idea of the rapid advance in Vaca Valley lands when planted with orchard; also how good an investment bearing orchard is at \$500 per acre when the produce is skillfully handled.

The nearest building in the foreground on the left bank of Ulatis creek and beside the roadway is the packing-house and drier of L. W. and Frank H. Buck—a near view of the building being given in Fig. 2334. In the foreground of this little picture are seen the orchard trucks to which allusion was made in our comments on Plate II. The picture shows well the general features of the buildings, which comprise an evaporator, packing-house and cutting shed combined. The drier is of the Blowers pattern.

The building enclosing the drier is 16x36 feet with the brick furnace bisecting it, and on two sides of this furnace are five chambers or sections, each holding two tiers of trays. On the top of the building is an exhaust fan, which is found of great value, hastening the drying, and thus increasing the capacity of the drier. The fan is run by a portable engine situated outside the building. Near the drier Mr. Buck has a good building, 36x44 feet, two stories. The lower floor is used for packing and cutting, and the upper floor for box-nailing, packing of dried fruit, etc. Around the buildings are broad verandas which add much to the sheltered working space. Mr. Buck found last year that he must utilize the sun as well as the drier to use up the vast amount of fruit which he had ripening. He handled an average of twenty tons a day of green fruit during six weeks of July and August. He employed from 80 to 85 hands, and his busy season with different fruits extended from June 15th to October 1st. He handled 370 tons of fruit which yielded 70 tons of dried fruit. For the season of 1888 Mr. Buck has constructed an additional cutting-shed and removed a part of his vineyard to secure larger space for sun drying.

Almost in the exact center of the landscape is the site of the residence of F. H. Buck, the cottage being completely concealed from view by the majestic oaks which embower it. A nearer view of the residence is given in the corner piece Fig. 1075. It is unpretentious in style of architecture but is exceedingly neat and pretty in all its points. The artist has taken some liberty with the

drooping branches of the oaks to show the house more clearly, consequently the place is richer in natural beauty than the picture indicates.

Next beyond and nearest to the edge of the circular encroachment is the place of Frank Vermilion, who has 50 acres in fruit of good varieties and in good bearing. Still farther northward are the places of L. L. Hatch, W. H. Price and O. Sweeny, which will be definitely located on Plate V. The last place on this view and directly over the circle at the extreme right is the 30-acre orchard of J. N. Wells.

On the left-hand side of the valley are the well-known orchards of A. McKevitt and F. B. McKevitt, which will be in the foreground of Plate V, as the point of view for that plate is high up on the hillside near the left of the landscape shown in Plate IV.

MINOR SKETCHES—THE MANZANITA.

We have already alluded to the two small pictures on the right of the plate. Upon the upper left-hand corner is a bit of the native hill-growth of the district which merits allusion for its beauty. It is the manzanita, (*arctostaphylos pungens*) which occurs on dry ridges everywhere in California both on the coast and at great elevations, sometimes only growing a few inches from the ground, sometimes rising eight or ten feet and in rare cases higher. Its characteristic, tortuous growth and dark-red, smooth bark make it conspicuous and constitute it a favorite material in the making of rustic seats, flower stands, etc. The tree is shown in the lower left-hand corner of the landscape on Plate X, Fig. 2473. The tree or shrub yields a small apple-like fruit of a yellowish or dull red color—a favorite fruit with the Indians and bears. In the Vacaville district the fruit ripens by July and hangs until softened by the rains. Oftentimes on sloping ground the berries roll and gather in drifts two or three inches deep and their color is apparent from quite a distance.

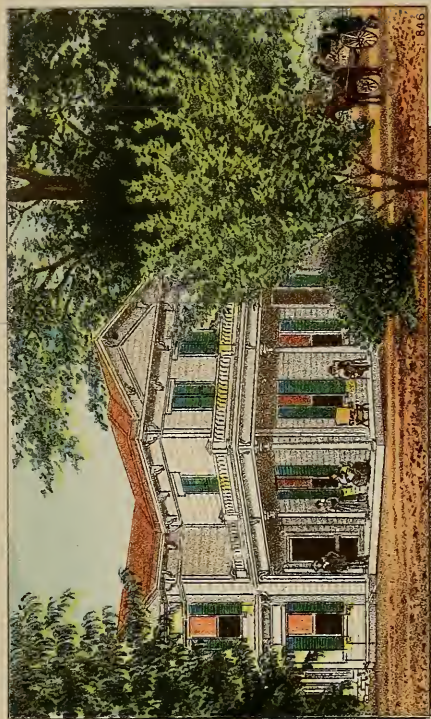
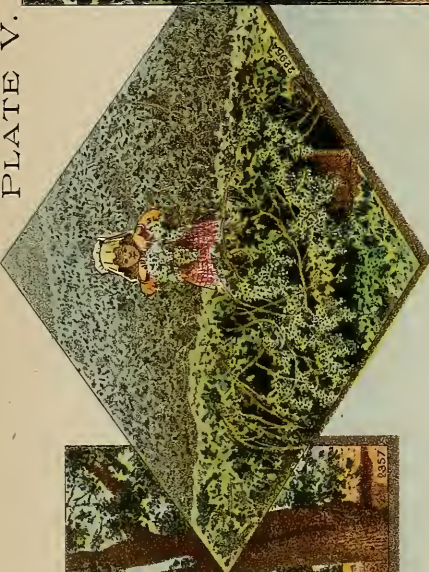
Peach Tree in Fruit.—The deeds of four-year-old peach trees are topics of general comment throughout the valley. Their size and yield delight all growers. The picture Fig. 2342, shows a four-year-old orange cling peach tree in the orchard of L. L. Hatch. Early in the season 2,000 young peaches were taken from it in "thinning," as is the common practice especially with apricots and peaches, and yet when the photograph was taken, August 22nd, it held all the ripe fruit it could support. There were 550 peaches which filled seven boxes. This shows that it would have been better to have removed more fruit in thinning—for 550 peaches of this large and handsome variety should fill about eleven boxes. This spring (April 1888) 1600 peaches were thinned off the same tree and enough left for a full yield. There are many handsome things in horticulture, but we doubt if anything far surpasses a well-trained California peach tree in full fruit, in a situation where the peach best thrives.

Grapes in November.—The rich profusion of grape fruitage in California is shown in Fig. 856. The scene is in the vineyard of L. W. and F. H. Buck and the photograph was taken on the 3rd of November, 1886. At that time there

was an average of forty pounds of fruit hanging on each Flame Tokay vine and the owners were debating whether it would pay to ship them. They concluded to try the experiment and on November 8th, they were shipped east. The result was a net return of \$700 per carload over all expenses. Other satisfactory experience in late shipments of fruit is reflected in Fig. 868 of Plate V, which shows November packing in the orchard of A. McKevitt. It often happens that many grapes are left ungathered on the vines in the Vaca valley. The early pickings sell well and then as the grapes come in freely in later localities the price declines, so that the late grapes do not pay for gathering. They are allowed to hang until pruning time when the pruners and the wayside tourist gorge themselves with them.

The Flower Garden in November.—The little picture in the lower left hand corner, Fig. 909, should interest eastern readers, who grow petunias as pot plants and to whom the thought of masses of them in the open air in November must be rather startling. But such is the fact. The photograph from which this sketch was made was taken in the garden of L. W. Buck on November 4th. Perhaps the little dog basking in the November sunshine beside the blooming petunias might also tell a tale of our delightful sunny land. This little picture is only a part of the greater wealth of bloom which appears in the garden adjoining Mr. Buck's residence, shown in Fig. 2487, Plate VI.

Autumn in the Orchard.—This whole plate should bear weighty testimony to the mildness of the California autumn. There are autumn hues on deciduous growths and yet much green remains even amid the yellowing leaves of the orchard, and the vine shows but little departure from its summer verdure. The death of the vegetable world comes rather from weariness and thirst than from cold. The immense weight of fruit and the vigorous growth of wood leads the tree to call for rest, and the exhaustion of the moisture from the soil by the draught of the roots to compass this growth, are the chief causes which bring the sere and yellow leaf in California. It is not frost, for the petunias are blooming and the veteran tomato vines, robbed of their fruit, still live, in green old age, in the fields. But the time has come for a rest. The quiet, warm air invites repose. The trees sleep. But it is just a midday nap; the early rains wake them soon. The roots are active first, then the buds swell and the blossoms burst forth—sometimes as early as January; the almond first heralding the advent of spring.



2507. Upper Vaca Valley—View Northeast.
 2357. Residence of Frank B. McKevitt.
 2354. Chasselas Fontainebleau Grapes on *Vitis Californica* Roots.
 846. Residence of A. McKevitt.
 868. Peaches and Grapes for Chicago Thanksgiving Dinner—A. McKevitt.
 1051. Ripe Oranges in December at L. W. Buck's.

PLATE V.

Upper Vaca Valley, Looking Toward the Northeast.

THE point of view for this Plate is high up on the hills across the valley from Smith's Peak, and the direction of sight is toward the northeast, consequently, about at right angles across the direction of sight in Plate IV. The object of this selection of view is to bring the west side of the valley into the foreground, and to reveal the important hill district which bounds the valley on the northeast. The high elevation on the left of the landscape is Putham Peak, about 1,500 feet high, and the more distant hill to the left of the peak is the part of the Blue Mountains on the north side of Putah Cañon. Between these two landmarks lie Pleasants' valley and the Putah Creek region, which will be shown in subsequent plates, but their geographical relation to the Vaca valley can be best noted at this point. Though Vaca valley and Pleasants' are, practically, one, in that the same ranges of hills lie on their eastern and western boundaries, there is a difference in inclination, which causes the waters of Vaca valley to flow southward, and of Pleasants' to flow northward. The divide between the two valleys is about at the edge of the landscape in Plate V.

The distance from the foreground of the picture to Putnam Peak is about 5 miles, and about 10 miles to the distant mountain north of Putah. As has already been said, the width of the floor of Vaca valley at this point is something less than one mile. On the right, the view extends over the hills bounding the valley on the east, showing the great plain of the Sacramento valley. On a clear day the distant Sierra Nevada Mountains can be seen from the point where the photographer located his camera for this picture—and, in fact from any point of view, in this region, which commands a sight of the Sacramento, one can see the mighty mountains on its eastern rim, if the air favors long sight.

In the immediate foreground of Plate V are parts of the vineyards and orchards of J. R. Collins. Just beyond runs the road from Vacaville up the

valley, and to Pleasants' valley and Winters, beyond. The first place across the road, and nearest to the observer, is the fine 60-acre fruit farm of A. McKevitt, and his handsome residence is shown, in near view, in the upper right-hand corner-piece, Fig. 846. The place is appropriately named "Three Oaks" from the grand native trees which stand in the door-yard. Mr. McKevitt came to Vaca valley in 1877 and began at once active operations in fruit-growing, though he had no previous horticultural experience. His success should be a surety to others who can bring to the effort, good judgment, quickness of observation and business-like methods. He has 22 acres in shipping grapes, 20 acres in peaches, 3 in plums, and 9 in apricots. His apricot orchard is an illustration of his systematic work. It is distinguished for having borne full crops for 10 successive years, while many orchards are allowed to over-bear one year and under-bear the next. This he accomplished by extra attention to thinning the fruit, and in this way gets fruit on old trees as large as that borne on young trees, and much superior in flavor. Mr. McKevitt reports an average return from two acres of his apricot orchard of \$950 per year for the last five years. From 5 acres of peaches he secured a net return of \$612 per acre in 1887.

Mr. McKevitt's methods are reflected in the style and convenience of his packing-house. The view given in 868 was taken November 8th, when grapes, and a very late variety of white cling peaches, known as "Miller's cling," were being packed for shipment to Chicago, and yielded very profitable returns. Mr. McKevitt's packing-house is 24x32, two stories. The lower floor has doors which fold outward, so that nearly the whole north side can be thrown open if desired. The south side has a continuous window, closed by a long blind hinged along the top, so that it shuts out the sun when raised to admit light. Thus a light and cool packing-place is secured. Upstairs there is a large room for storing and packing dried fruit, of which a large amount is annually turned out. The house cost about \$500, and is well finished with rustic. It is well adapted to the needs of a medium-sized orchard. The picture also shows one of the smaller wagons used for hauling packed fruit to the shipping point. There is considerable difference in the style and capacity of the fruit wagons used in the valley. They are well furnished with springs, and usually fitted with a canvas cover to exclude dust.

Adjoining the place of A. McKevitt is the place of his son, F. B. McKevitt, who also embarked in fruit-growing in Vaca valley in 1877, without previous horticultural experience. He now has 145 acres, including his new place on the hills north of Vacaville, as already mentioned in Plate I. In both places together, he has 22 acres of Royal apricots, 35 of peaches, 60 of grapes, 5 of plums, 4 of cherries, 2 of pears, and 2 of nectarines. Frank McKevitt is one of the most active and energetic young men in the valley. He is progressive in his own thought and methods, and a zealous promoter of public improvements. His trees are well kept (as is shown in Plate I, Fig. 2356, A), his land well worked, and his business very profitable, as may be seen from reports, which we shall include in a special chapter on actual results, which will appear in the second part of this work. The left-hand upper corner-piece shows a residence

recently erected on his valley place—a very shapely structure, picturesquely seen between two large oaks near the bank of a branch of Ulati creek, which runs diagonally through his property. Beyond the house is a 20-acre vineyard, which is one of the most interesting in the State, because of the data it offers to the students of *vinifera* varieties upon the *Vitis Californica*, which resists the phylloxera. Mr. McKevitt finds that some varieties do exceedingly well on this root, notably the Chasselas Fontainbleau and the Folle Blanche. Some varieties, as the Tokay and Cornichon, largely overgrow the root, but are still growing and bearing well. Mr. McKevitt has had a Tokay graft six months from grafting bear a six-pound cluster. He grows table grapes only. The variety in growth of the seedlings of *Californica* upon which he has grafted the *vinifera* has given him opportunity of interesting study, and he has learned to recognize the source whence he obtained the roots by their different behaviors. Native grape vines are very abundant along the creeks in this district and great difference is noticeable in the individual vines, although they all belong to one botanical species. A vine having a long wiry growth of cane should be avoided, as a quick growing *vinifera* graft will overgrow it. In growing stocks for grafting, those better suiting the graft should be carefully selected. A very interesting view in Mr. McKevitt's vineyard is given in the lozenge above the landscape, Fig. 2295, A. It is a three-year-old Chasselas Fontainebleau vine on *Californica* root. From it there were picked 35 pounds of first crop which were over-ripe when the photograph was taken on July 30th. The vines also bear a second and third crop. This vine was pruned long the previous winter to see what it would do. Its crop was too great. Mr. McKevitt thinks ten pounds is all a vine of that age should be allowed to bear. He begins picking grapes in July and always has plenty on the vines to eat as late as New Years.

Passing on northward from Mr. McKevitt's, the road makes a curve as shown on the left of the landscape in Plate V. Upon the left of this curve are the places of W. H. Buck and L. W. Buck, which appear in the foreground of Plate VI, and will there be considered. Some distance to the right of the curve is John Wells' place. Mr. Wells has 70 acres of land of which about 30 acres are planted with trees and vines and he intends to plant 10 acres more next year, peaches and apricots. He reports 500 peach trees, 4 years old in 1887, yielding \$1,400 worth of fruit. He picked from 300 apricot trees, four years old, 16½ tons of fruit which yielded 3 tons dried, and the dried apricots sold at 11 cents per pound in Vacaville. Over the hill beyond L. W. Buck's place are the orchards of J. B. Merchant and Levi Korn. Mr. Merchant has 80 acres, of which 50 acres are planted with fruit—peaches, nectarines, apricots, grapes, pears and plums. Near Mr. Merchant's house is an old orchard planted by Isaac Decker 25 years ago. J. W. Brazleton, next north of Mr. Merchant, has 20 acres nearly all planted, including 700 pears, 700 peaches, 100 apricots and 3 acres of grapes. He had about 100 boxes of grapes and 50 boxes of peaches in 1887, the third year from planting. He has fruit growing now on trees planted but 22 months. Almost in the center of the valley view is the orchard of W. H. Price and a little to the right, that of O. Sweeny.

On the extreme right of the valley orchards may be seen the buildings of L. L. Hatch. This place is exceptionally interesting to the horticultural visitor because of the age of some of the trees which are said to have been planted as early as 1855. One is a veteran Moorpark apricot, which has furnished many buds for the multiplication of its kind in the valley. The old tree shows its age, but is still productive, for Mr. Hatch told us that it produced 25 boxes in a single year when it was 28 years old. The weight of this crop was about 750 pounds and it sold for \$25.

Beyond Mr. Hatch's is the 21½-acre place of Mr. Ed. Russell Morris, of Long Beach, Los Angeles County. It is wholly planted with grapevines, and, with the exception of a few acres of Tokay and Muscat, which are in bearing, it is set with resistant roots, now two years old, which would have been grafted this spring had it been possible to secure expert grafters. The stand of resistant roots secured is especially good, and the land is regarded as admirable vine land. Concerning his judgment of the Vacaville District Mr. Morris writes: "Before purchasing my place I did a most unusual thing; I made myself acquainted with all the most attractive fruit districts in California, the date and destination of shipments, and prices realized, and I have never yet succeeded in understanding why the best orchards in the most profitable fruit districts should be somewhat cheaper than the best in any other."

HILLSIDE ORCHARDS.

Plate V is especially interesting because it shows such an array of the hill-side and hill-top orchards east of the upper valley. This is really a continuation of the hill country which extends from near Vacaville to Putnam Peak and then north of the peak a continuation constitutes the hill region of Pleasants' Valley. Earliness of ripening of fruit and vegetables is characteristic of the whole hill region.

Beginning on the right of the hill region in the landscape in Plate V, the first place is D. J. Parmele's, from whose warm, light soil very early vegetables have been shipped for a number of years. Mr. Parmele has 40 acres of orchard and vineyard. His trees and vines can easily be seen from the valley roads, extending over from the eastern upon the western slope of the hills. Beyond Mr. Parmele's are the places of J. F. Hough, of San Francisco, Morganstine & Milsner, Antonio M. Esquivel, Dutton & Corn and others. Mr. Esquivel, who furnishes us an interesting report of his experience, is a native of New Mexico and came into this region in 1855 because of its desirability for sheep-pasturage. Afterwards he became a fruit and vegetable-grower and now has 80 acres in different varieties of fruit, chiefly peaches and apricots, though he has quite a cherry orchard.

A little to the left of the center of the picture, on the west slope of the hill range, is the 22-acre orchard of P. H. Lepley who began planting in 1884, and from about 400 peach trees realized nearly \$300 in 1887—3 years old. He has 400 apricot trees in splendid condition, and 120 pear trees. He has also one

orange tree which bore 8 or 10 fine oranges in December, 1887, before it had been planted 3 years, and now (April 24, 1888) is just as full as it can be of blossoms and little oranges for the present year.

Joining Mr. Lepley on the north is the land of J. Nathan Rogers. Mr. Rogers' place saddles the ridge and he can look at the dome of the State Capitol glistening in the sunlight, and the distant Sierras, or he can gaze down upon the beauties of Vaca valley. Mr. Rogers came into the region in January, 1884, after having looked about considerably in the fruit regions of the State, and decided that, in his opinion at least, the Vacaville district was the earliest and most profitable. Mr. Rogers' place contains 160 acres, of which 100 acres are in fruit; 65 acres of grapes; 10 each of peaches and apricots; 6 of figs, and the balance plums, pears and apples. His orange trees are thriving, but not yet in bearing.

Next north of Mr. Rogers and extending northward to a point which appears in the view to be very near to Putnam Peak, is the property of Wm. Cantelow, who came into the district in 1858, and is one of the best-known horticulturists in the valley. Mr. Cantelow is a firm believer in his locality and largely to his exertions was due the fine exhibit made at the Sacramento citrus fair of January, 1887. He even dug up one of his best orange trees and carried it fruit, roots and all to the fair to show that the fruit actually grew as represented. Mr. Cantelow attends leading horticultural meetings and is well informed. He has in all 800 acres, and 125 acres in fruit; 85 acres of apricots and peaches and 40 acres of grapes. He grows considerable quantities of string beans, corn and tomatoes. Mr. Cantelow is also an inventor of excellent horticultural appliances. His nailing bench is used in many packing houses.

On the hills east of Wm. Cantelow's is the place recently sold by his son, W. P. Cantelow, to Robinson Brothers, whose farm, near Smith's Peak, was mentioned in the description of Plate I; and between Mr. Cantelow and the county road is the place of Mr. Emerson Wood.

MINOR VIEWS.

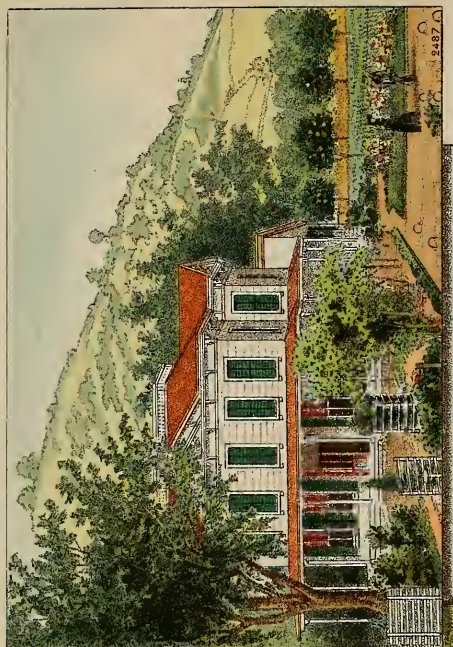
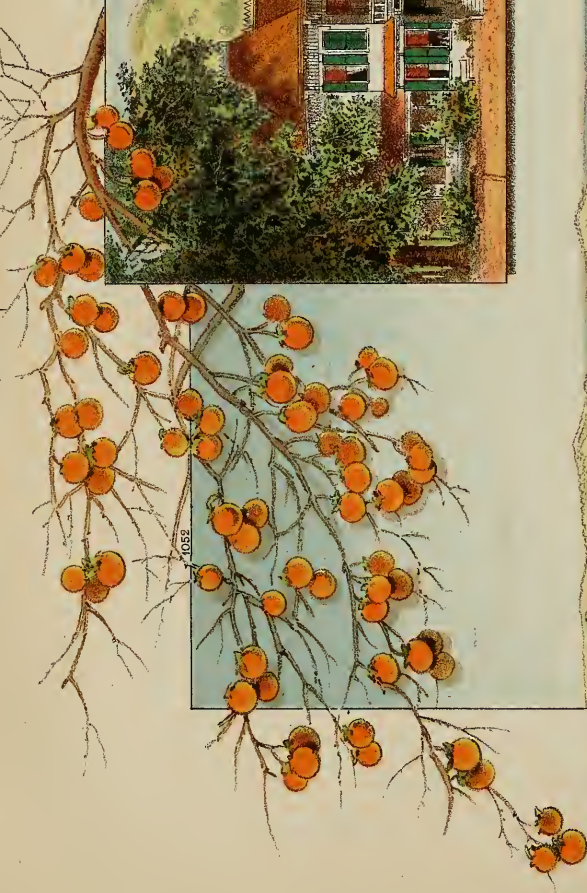
A November Scene.—The artistic appendages to Plate V have already been mentioned in part. In the dooryard of A. McKevitt (Fig. 846), is seen an apricot tree in full foliage. The photograph was taken November 1st, and the leaves were then verdant. Other features of the picture, the open windows, the people upon the veranda and the general summery character of the picture, are very good evidence that November in California is far from likeness to November as described by Tom. Hood.

Girls and Grapes.—Some of our younger readers may envy the little girl with her arms full of grapes. That is one of the blessings California children enjoy and it does them good. One of the very best things to do with children in California is to give them the run of a fruit ranch when the fruit is ripe. It damages the fruit but it improves the children. We know of a large family of children who went into Vaca valley last summer when apricots and peaches were in their glory. The children were unused to much fruit and their

mother anticipated the direst disasters, but there never was call for a single drop of peppermint. The children would eat fruit until it was a physical impossibility to get another specimen inside of them, and yet there was never a squally night all summer. Good fruit is one of the grandest things in the world for children, and its effects are not usually fatal to adults.

Ripe Oranges.—The pretty picture of a well-laden orange tree with its green and gold, is from a photograph (1051) taken December 2nd. The tree is standing among others in the orange orchard adjacent to the residence of L. W. Buck, as shown in Fig. 2487, Plate VI, and the oranges were perfectly ripe at that time all through the orchard.





2510. General View of Vaca Valley from the North.
 1052. Japanese Persimmons.
 2475. Residence of Wm. H. Buck.
 2487. Residence of Hon. L. W. Buck.
 2538. Zinfandel Grapes—11 tons per acre—Sears & Clark.
 2430. Residence of F. Herbert Buck.

PLATE VI.

Vaca Valley, Looking Toward the Southeast.

THIS plate discloses nearly the whole area of Vaca valley looking toward the southeast from an elevated point on the north side of Weldon cañon; the point of view of this plate having been located in our comments upon Plate IV. This bird's-eye view of the whole valley from its upper end should be studied in connection with Plate I which shows the whole valley from an opposite direction. From the foreground of this landscape it is about six miles to Vacaville, the town being visible in the distance. To the right of the town and a little farther away is the round hill from which the view for Plate I was taken. A little to the left of the center of the picture is Smith's peak, its pyramidal form being quite marked in this view. This is the elevation from which views for the Frontispiece and for Plates III and IV were taken.

The depression among the hills to the left of Smith's peak is known as Gibson cañon in which are located the fruit farms of Robert Park, Mrs. P. Lyon, Robinson Brothers, Garlich, McMurtry, the Coulter place of F. B. McKevitt, Gibbs, Knox and others mentioned in Plate I, and on the highest hill on the left of these places are the orchards of Mrs. M. P. D. Jagger and A. Steiger.

Directly beyond Gibson cañon a high point is seen rising above the horizon line. This is "Old Rocky," one of the high points nearest to the town of Vacaville. From this elevation the following very excellent word-picture was drawn by Prof. Granville V. Foster, who was a few years ago a resident of the district:

The town of Vacaville is romantically situated just where the Vaca valley opens out into the great central plain of California. The landscape in the vicinity is of surpassing loveliness, especially in spring. Let the tourist, some beautiful morning in April, when the air is peculiarly free from dust and smoke, ascend some one of the round-topped hills just north of the town (old

Rocky, for instance, one of the highest), and a scene of beauty will be spread out beneath him which it would be hard for him to find even in the Golden State. Toward the west tower up the beautiful blue peaks of the Coast range, Vaca Mt. and Blue Mt., standing out loftier and clearer than the others. On these deep cañons, and the trees and the living green of the slopes are distinctly visible, while below them are the foot-hills, many of which are terraced to their summits and planted with vines. Beneath him and between him and the mountains lies Vaca valley, through which runs Ulati creek, on both sides of which he sees spread out a perfect paradise of gardens, orchards and vineyards. Away to the north arise a succession of round-topped hills, as yet uncultivated, but in all the glory of the beautiful wild flowers of California, of which the purple *Calendrina* and the rich and showy *Escholtzia* hold a prominent place. Eastward his gaze takes in the great central plain of the State, while the distant Sacramento, like a silver thread, is seen gleaming and glistening in the clear rays of the morning sun, while still further off, just on the horizon and in certain states of the atmosphere (usually before a coming rain-storm), clearly, distinctly, boldly appear the snow-capped summits of the far-famed Sierras. Away to the south the eye wanders over Suisun bay and takes in that prominent landmark, Mount Diablo, on the sides of which the tourist can see the clouds play and chase each other as the wind sweeps in through the Golden Gate—one of nature's signalling stations, where she reveals to the inhabitants of the central plain the state of the weather at the Bay. On very clear days, far away to the north, the white summit of Mount Shasta can easily be made out just peering a little above the horizon amid a wilderness of other peaks. From the summit of Vaca peak, over 2,200 feet high, a grander and far more extensive view can be had, embracing even a glimpse of the Pacific Ocean and San Francisco.

Returning now to the foreground of the landscape in Plate VI, one sees spread out the orchards in the mouth of Weldon cañon. The elevation from which the view was taken makes the cañon look wide and shallow, but it is really a deep cut with quite precipitous sides. It is merely a gap through which the Ulati brings the waters from the Blue Mountains, the higher range on the west, which are best shown in Plate II. The abruptness of the walls of Weldon cañon can be discerned by glancing again at it as depicted in the center of the background of the landscape on Plate IV. Weldon cañon is full of romantic pictures and surroundings. It is a favorite recreation resort for the people of the valley when they desire to turn from the advanced culture of the valley orchards to the enjoyment of nature in wild flower and shrub and tree, to study the rocks or listen to the music of brooks and rivulets.

A glimpse of the native growth of shrub and tree is given in the right foreground of the landscape just over the oval sketch. The trees seem to be artificially arranged in lines, but this effect is caused by the aim of the camera along a general slope which is made up of alternate elevations and depressions in the plane of the incline. As is common on California hills the north sides of these depressions are thickly covered with shrubs and trees, while the sides with southern exposure are bare or sparingly set with trees. The heat is less and the retention of moisture more protracted on the northerly exposures hence nature locates her permanent plantations on them, and on the south slopes, during the winter and spring, she grows her gorgeous crops

of annuals which array the slopes in radiant robes of blue, or orange, or scarlet, producing the color effects in which, for extent and richness, the California flora is unsurpassed.

In the immediate foreground at the left is the orchard of H. G. Winchell. Mr. Winchell has 20 acres nearly all in orchard. His protected location gives him very early growth, and the richness of the soil causes his trees to attain size very quickly. He reports a few leaves on his Pringle apricots in 1887 as early as January 29. He had 200 Susquehanna peach trees, three years old, which yielded four baskets or about 100 pounds to the tree. Most of the orchard in the mouth of the cañon before you come to the road and about as much across the highway, is the property of Hon. L. W. Buck, formerly a member of the Senate of California and of recent years prominent in the affairs of the California Fruit Union of which he is manager and one of the directors.

L. W. Buck is a native of Cortland county, New York. After the war, in which he took part as a lieutenant, he moved to Iowa and remained there until he came to California in 1874, locating in Vacaville. In the fall of the same year he purchased, mostly on time, the Weldon place of 156 acres. He had very little ready money, but was rich in energy and was blessed with a large family of similar spirit, and all united in common cause to win success. When Senator Buck took the Weldon place it had a small bearing orchard and a few vines. By untiring industry and attention to gathering, packing and marketing fruit, Mr. Buck met the payments on his place, put out more fruit and vines, until now he has upwards of 120 acres of orchard and vineyard on his home place. He has built a large house on a slightly situation overlooking the valley, has other fine buildings, in all a beautiful home. A view of the residence is given in Fig. 2487, Plate VI, as will be further described presently. As soon as the original venture was well in hand Senator Buck, through his great faith in the fruit industry of the Vacaville district, began to increase his acquisitions of land and planting of tree and vine until now he and his oldest son have about 500 acres of bearing orchard and vineyard in Vaca valley, including the Wilson place noted in Plate I, and the plantations described in Plate IV.

The Senator is deserving of much credit for the active part he has always taken in developing an eastern market for California fruit, being among the first of the fruit-growers to ship on his own account. In the home place shown in Plate VI, he has associated with him his younger son F. M. Buck, the latter being resident manager of the business. Some figures of the products of the place will be given in the proper place in Part II of this work.

The county road from Vacaville northward to Pleasants' valley has been made a shady avenue where it crosses Senator Buck's place by his wayside planting of the California black walnut. These large trees can be distinguished in the picture. At the right-hand end of this avenue begins the property of W. H. Buck, a native of New York State, who came to the district in 1882, and has now two fine orchard properties, one of 52 acres at the site described and another of 20 acres which is shown in the frontispiece and

there commented upon. Of the 52 acres 45 are planted with fruit, chiefly apricots, peaches and grapes, of all ages from one to six years. W. H. Buck's residence is one of the notable dwellings in the valley and is shown in Fig. 2475, Plate VI.

Following along the county road toward the right one sees first the residence of F. B. McKevitt and next that of A. McKevitt which were shown from the opposite direction in the foreground of Plate V.

To the left of the center of the landscape there are several clumps of large native trees still standing amid the expanse of orchard and vineyard. The most distant of the groups of trees is on the 20-acre place of F. Herbert Buck, whose residence on the banks of the Ulati embowered with native growths on one side and by thrifty orchard trees on the other, is shown in the smaller engraving Fig. 2480.

At the extreme left on the farther side of the valley are the orchards of W. H. Price, whose residence is enclosed by the large trees just beyond the open fields at the left center of the landscape. Next to him is L. L. Hatch, whose buildings are near the base of the hills, and then follow in order named the places of Frank Vermilion, F. H. Buck, Chas. Chubb, and L. W. and F. H. Buck—all of these places lying northwest of Smith's Peak, as noted in previous plates. Just beyond and on the near face of Smith's Peak, as it appears in Plate VI, is John Caughy's orchard and vineyard. Mr. Caughy has recently built a new house on an elevation, which commands a fine view of the valley in three directions. His place comprises 61 acres, of which 20 are on top of the bluff, the rest on the west face, as stated. Mr. Caughy has been foreman on the adjoining property of L. W. and F. H. Buck for five years, and purchased his place after full acquaintance with its merits. In 1887, the first bearing year, 20 acres of it, four-year-old trees and vines, yielded \$1,000 for fruit delivered at Buck's packing-house, just across the creek.

MINOR VIEWS.

Elegant Homes.—Individual prosperity is valuable to the community in certain of its outward manifestations. A full purse in a wisely generous hand is a public blessing, a full purse in a miserly grip may either bless or curse a following generation, but is of no present account to its owner or to the public. One of the most creditable indications of the wealth which has flowed into the Vacaville district is the erection of fine homes. There are many of them, as several of our foregoing plates have shown, and others will follow. So far as our observation goes these homes shelter a hospitable, enterprising and progressive people. Let this assurance go to the distant reader: it is one of the most important resources of the district.

Fig. 2487 shows the residence of Hon. L. W. Buck, to which allusion has already been made. The artist has not overdrawn its beauty. The door-yard is a wealth of bloom, both at front and side of the residence, and the beauty of the flowers with their background of bearing orange trees will dwell long in

memory. It is a winter scene, as the reader may know, for then only does the orange ripen its golden fruit. But winter is a term which has to be sought for in the almanac, and not on the face of nature, for before the oranges are gone the reign of strawberries and green peas begins—both of these delicacies having been gathered in Senator Buck's garden before the end of March, the present year.

Adjoining is the residence of W. H. Buck, Fig. 2475; it stands just above the main road, in a commanding situation, and just behind it rise the picturesque hills. Great oaks shade the grounds adjacent, and foliage plants deck out its garden borders.

Another residence in which nature has done more than the architect to adorn the home is that of F. Herbert Buck (Fig. 2480), already mentioned. It is an interesting spot, in its contrast between the wild and cultivated. The native trees shown are the California maple, outlined against the dark green foliage of the live oak which is struggling for light and air in the clinging embrace of the wild grape vine, which entangles tree growths all along the creeks of this district. The profusion of nature's growths and their character bespeak the favoring climate and soil. Perhaps one of the most striking instances is the California alder. While its eastern congener is but a shrub, the California species is a tree which hillside clearers consider of account for fuel, and the tree-lover admires for its beauty. The elderberry bush of New England also becomes in California a tree often six to twelve inches through.

The Persimmon.—The shower of color in the sky at the left of the landscape is a fruiting branch of the Japanese persimmon (*Diospyros Kaki*) which is a conspicuous object wherever grown, and is proving of considerable value in the market. The specimen (Fig. 1052) was photographed on the grounds of L. W. Buck, on December 2nd. The artistic characters of the tree are its beautiful light green foliage in summer, and its masses of bright orange red hues when the leaves have fallen.

Grape Gathering.—The vineyard scene (Fig. 2388) illustrates the wonderful growth and fruitage of the European grape species in California. The scene is on the place of Sears & Clarke, located south of Smith's Peak, as described in Plate III. The variety is the Zinfandel which in some localities makes a good claret wine. There are very few wine grapes grown in Vaca valley, in fact we do not recall another than the one mentioned, and even these are being replaced with fruit trees, which are more profitable. Vaca valley grows table grapes almost exclusively, while across the Blue Mountains in Napa valley the wine interest largely predominates. The special point illustrated in this view is the heavy bearing of the vine. The picture was taken September 15th. At the time of photographing it was estimated that the vine held 120 lbs. The first crop was over ripe at that time, the second crop was green, and the clusters of the third crop, growing near the ends of the leaves, had berries less than the size of peas. The arrangement of the vine on a support was to enable the photographer to show the fruit; it was growing spread out on the surface of the ground, and was only one of hundreds just about as well loaded. Almost

all the Vaca Valley grapevines are allowed to run on the ground ; the earliest and sweetest table grapes ripening nearest the earth in this dry climate without mould or decay—as in the Tokay vineyard, Fig. 856, Plate VI.

The Chinese grape picker with his sun-hat, baskets and carrying-sticks is a familiar figure in California vineyards. Chinese help is, however, becoming scarce and higher priced since the restriction of immigration, and better classes of labor are coming in. There is room for many more laborers ; if they are industrious, sober and trustworthy they will find plenty to do during the fruit season, and there are many more all-the-year-round places than there were a few years ago.



PLATE VII.



2333. Pleasant Valley, looking North over Puah Cañon and 200 miles up the Sacramento Valley, to Mount Shasta.
 2334. Mouth of Puah Cañon, and site of Putnam's Early Vegetable Raising for San Francisco.

2335. Salvay Peaches at Mrs. G. M. Blake's.
 2336. Ripe Oranges at W. J. Pleasants'—fourteen Boxes Shipped to San Francisco Dec. 6th.

2336. Residence of G. W. Thisell.
 2334. Thirty-five year old Apricot Orchard of J. M. Pleasants.

PLATE VII.

Pleasants' Valley and Putah Creek Region—Looking Northward.

THE Landscape on this plate unfolds to view some of the most interesting geographical and topographical features of the Vacaville district and its environment. The area included is greater than that embraced in any other plate, because the majestic mass of Mt. Shasta rears its snow-mantled summit in the background of the picture. Other views disclose the summits of the Sierra Nevada mountains, and they are about one hundred miles distant, as seen across the Sacramento valley; this view is lengthwise of the Sacramento valley and includes a distance of about two hundred miles, revealing Mt. Shasta, which has been appropriately termed the keystone of the arch formed by the incurving mountain chains, the Coast range, and the Sierra Nevada. Though the great floor of the Sacramento valley terminates about on the southern boundary of Shasta county, in a foothill region half circular in shape, there is beyond this the upper valley and its many arms with their inclosing hills and mountains, forming a country rich and picturesque, which extends northward for many miles before the higher mountains close in and place the crown of eternal snow aloft on Shasta's brow, 14,440 feet above the level of the sea.

It has been frequently remarked of late that the great snow-covered mountain, through the dissemination of engravings of it reproduced from the masterpieces of the artists, has really given distant people the impression that Northern California was an arctic region and Central California must therefore be semi-arctic. Such conclusions are very erroneous. The towering Alps do not lead to a misconception of sunny Italy, nor should Shasta reflect a chill,

even in thought, upon the genial regions which owe their winterless clime in part to the protection afforded by his massive form, and by the ranges which inarch their ridges on either side to support his pedestal. A recent writer has commented upon the majesty and beneficence of the mountain as follows:

Of all American mountains it has the most sovereign look; it leans on no other hight; it associates with no other mountain; it builds its own pedestal in the valley and never drops its icy crown. It is a glory in itself. It siezes the clouds with icy arms and compresses them until their contents are dropped upon the thirsty fields below; from its base the Sacramento starts on its way to the ocean; despite its frowns, it is a merciful agent to mankind, and in the minds of those who see it in all its power and splendor, a picture is painted which will last as long as the gift to admire anything magnificent is left.

The nearer mountains in the background are the Marysville Buttes, and they are about sixty miles distant from the foreground of the landscape. Prof. Hilgard describes the Buttes as a ragged volcanic mass appearing in mid valley and forming a prominent landmark on the plain. The Buttes, with their foothills, occupy an area of about four miles by eight, and the bare disrupted rocks and precipices of the central masses contrast oddly with the fertile plains around. The highest point of the Marysville Buttes, as determined by Prof. Davidson, is 2,112 feet above sea level.

From the thought of the great distances and elevations mentioned, and the expanse of the Sacramento valley which can be inferred from them, we turn to the consideration of the little hill-locked valley in the foreground of the picture, and its environment. Pleasants' valley takes its name from J. M. Pleasants, a pioneer settler of the valley in 1851, and still a resident. This place will be more fully mentioned in connection with next plate, but one. Upon the right of the valley is Putnam Peak, which has been frequently mentioned before. Its chief component is a black volcanic rock. If reference be made to Plate V in which Putnam Peak is also shown, it will be seen that the view in Plate VII is really a continuation of that in Plate V, and that the relative geography of the upper Vaca valley and Pleasants' valley is made clear. There is between the two valleys a short stretch of low hills and broken country, which is shown on the extreme right of Plate IV. There is also a divide, but only high enough to turn water northward and southward without disclosing its hight otherwise, for on the place of Wm. Cantelow there are two small creeks, quite near together as they come down from the hillside, but one flows southward into Vaca valley and the other northward into Pleasants' valley.

The western boundary of Pleasants' valley will be clearly shown in Plate VIII; its northern and eastern boundaries can be well discerned in this plate. The high ridge beginning at the extreme left of the landscape is a continuation from the north wall of Putah cañon. This ridge as it encroaches upon the valley trends southward. There is a wide break in it where the Putah creek finds an outlet eastward, as shown in the small picture, Fig. 2538, which will be more fully considered presently. This ridge then continues southeasterly, dividing Pleasants' valley as is seen in Plate IX, and breaks again, giving Pleasants' creek its opportunity to flow to the east side of the valley, along which it skirts the eastern hills until it flows into the Putah. Rising again

the ridge reaches its highest point in Putnam Peak, and thence continues its southeasterly course, forming the eastern boundary of Vaca valley, until it breaks off rather abruptly near the town of Vacaville. This disposition of the north walls of the cañons of the Blue Mountains to run out long arms southeasterly, is characteristic of the east side of the range. It has already been noted in the description of Gates cañon on the frontispiece. The effect of this topography is to give the enclosed valleys protection on the north and east sheltering them from northerly winds, and serving also to concentrate sun heat upon the fruit—thus contributing greatly to the well-known early-ripening of the district.

THE VALLEY FARMS.

The plate shows that much of the area of the higher slopes of Pleasants' valley is still in its natural condition and is largely covered with shrubs and trees as indicated in the left foreground of the picture. Some orchards have been planted rather high on the slopes and have proved earlier than the valley in ripening the same varieties.

In the valley nearest to the left is the Oakdale district school. Passing the school house the road winds around on the right of the hill, and beyond the hill its course up the valley is shown. In the hollow just at the left of the hill are the buildings of the farm now owned by Washington Tucker and Warren Tubbs, who recently purchased it from J. S. Shearman. The ranch comprises 307 acres, of which 105 are orchard and 20 acres vineyard, covering the hill a little to the right and below the center of the picture besides much of the lower land. There is also some fine early vegetable land on the farm and a considerable product in this line is turned out. Messrs. Tucker and Tubbs were formerly engaged in growing wheat and live stock in San Joaquin county and came to the Vacaville district because of its fame for early ripening of fruits.

A little to the right of the center of the landscape, at an elevation, is seen the place of Chas. Martell. He has orchards and vineyards at different levels, as the picture shows. Mr. Martell has some good-sized orange trees, and has long been known as one of the leading growers of citrus fruits in the district. His place is commanding in position and picturesque. From Mr. Martell's house there is a foot path to Putnam Peak by which the summit can be easily reached in a half hour's walk, and the climber is rewarded by magnificent views in every direction.

The other places in the valley will only be mentioned in order of their location, because they all appear in nearer view on Plates VIII and IX, but their geographical relationship can be best noted here. In the left of the picture, the buildings just over the farthest hill in the foreground, are those of the Pioneer Ranch owned by Mrs. G. M. Blake; next beyond, following the direction of sight in the picture, is Washington Johnson's, next John Dolan's, next E. R. Thurber's and last W. J. Pleasants'. Mr. Pleasants' place ends the orchards, though beyond his trees are other lands which he and his father farm for hay, grain and pasture. Through Mr. Pleasants' place the county road turns

eastward and passes J. M. Pleasants'; and thence continues into the eastern arm of Pleasants' valley as is clearly shown in the center of the landscape on Plate IX, and will be more fully described in connection with that view.

PUTAH CAÑON AND PUTAH CREEK REGION.

The location of Putah cañon on this plate has already been referred to. It is one of the gaps in the Blue Mountains which enjoys the oldest and widest fame. It is also one of the most conspicuous, for its opening is wide and deep and unobstructed, so that far out on the Sacramento valley it appears as a deep notch in the western range. It was early called the "Devil's Gate," probably from its rocky and precipitous sides which in spite of their forbidding name are full of picturesque beauty. Through Putah cañon flows the Rio de los Putos, or as it is less euphoniously termed, Putah creek. It is a stream of size and force during the rainy season, and flows swiftly though in greatly reduced volume during the summer. Putah creek rises in Lake county and flows thence into Napa county through Sulphur cañon, a long defile between precipitous mountains: it then traverses the fertile Berryessa valley and plunges into Putah cañon, and for six miles threads this rocky passage, finally emerging, as shown in the engraving, to pursue a quiet course eastward twenty miles upon the plain of the Sacramento river, and then it sinks from sight in the *tule* lands. Putah cañon contains immense quantities of fine building stone, and the extension of a branch of the Vacaville and Clear Lake Railway, for which a roadbed has already been graded to the mouth of the cañon, will render these quarries available, as well as furnish valuable eastern connections to the fertile and famous Putah creek region.

Beginning in the mouth of the cañon and extending eastward beyond the flourishing town of Winters, is the Putah creek fruit region to which fuller allusion will be made in connection with Plate IX. At this time we would especially note the upper part of the region as shown in Fig. 2538 of Plate VII. This locality is of exceptional historical interest because it is the birthplace of the early vegetable industry of the Vacaville district, which will be described in a letter from the pioneer in this line, Mr. A. W. Putnam, in Part II of this work.

Nearest to the mouth of the cañon is the place of Henry Seaman, who has about 2,000 acres of land, much of it hillside, now used for cattle range, but some parts suitable for clearing and fruit-planting. He has 100 acres of more-level land which lies well for orchard and has now 50 acres in trees.

Joining Mr. Seaman's on the east is the 400-acre place of B. R. and J. Sackett, of which there are 90 acres in orchard and 20 in vineyard. They also grow about 30 acres of vegetables, chiefly between young trees and vines. B. R. Sackett now lives in San Francisco, but has been a resident of this region since 1852, and it was upon this place that Messrs. Putnam and Dolan began their market gardening. The Sackett orchards and residence are prominent in the cañon view, Fig. 2538, the photograph having been made in February, while the bloom was on the trees. The place is kept in the highest condition of culture and is pleasant to behold.

Mr. B. R. Sackett is one of the earliest settlers in the Putah creek region and relates most interesting incidents of the early times. He says that he first knew J. M., William, and Edward Pleasants, now of Pleasants' valley, as a camp of hunters at the mouth of the cañon, in 1850, seeking game and peltry for market. Grizzly bears were abundant and many were killed. About the last one killed, he shot near his residence in 1856 and sold the 600-pound carcass in Sacramento the next day for \$50, a steer at that time being worth \$100.

Mr. Sackett settled on unsurveyed government land in 1852, and claimed all that was in sight, at the mouth of the cañon, not already taken. It is now the Seaman ranch. Milton Wolfskill also took up 370 acres of government land, which he finally sold to Nathan Barker of Suisun, from whom Mr. Sackett purchased it in 1878. It is this land upon which Mr. Sackett's present orchards stand. Mr. Sackett planted 3,000 Mission grape vines in 1852, having brought the cuttings over forty miles on horseback from George Yount's in Napa county. The same winter he packed in 300 pounds of seed wheat from Suisun, twenty-five miles distant, having to pay 12½ cents per pound for it at Suisun. His crops of wheat, hay and corn were hauled to Sacramento to market. Mr. Sackett has given us many interesting notes of his observations and experiences which will appear in other connections later in this work. His long acquaintance with the Putah region confirms his high opinion of it as a region of deep rich soil and abundant rainfall, and as a field for profitable employment both of capital and labor.

MINOR VIEWS.

Salway Peaches—Fig. 2383 A.—The heavy fruiting of the Salway peach, which is one of the standard late-ripening yellow peaches of the district, is shown in this view taken of one of the trees on Mrs. Blake's Pioneer ranch. The branch from which the admiring person is gathering the fruit was so heavily laden that a prop was found necessary. At first glance the prop might be taken as the stem of the tree, but fruit trees are not grown with such long stems in this country. The sketch shows only a portion of the tree, the greater mass of it being on the right. In this as in many other cases the color artist has taken but a small portion of the original photograph.

Orange Tree in Fruit—Fig. 914.—The sketch represents one of the smaller trees in Mr. W. J. Pleasants' orange grove, the location of which is shown at the extreme right of the landscape on Plate IX. Its location in this view is almost in a direct line a mile or so beyond the Martell place. The photograph was taken on December 6, on which day 14 boxes were shipped from this orchard to San Francisco, showing the early ripening of citrus fruits in the district.

Old Apricot Trees—Fig. 2214.—This sketch has especial interest because of the age of the trees shown. J. M. Pleasants, the pioneer of the valley, has on his place this apricot orchard which is growing on peach roots which he secured by buying peach pits of George Yount in Napa county for 25 cents each in

1851. These trees were soon worked over into apricots and are still in vigorous bearing condition. These trees and those planted by J. R. Wolfskill, of which account will be given in Plate IX, are the oldest in the district, and their present thrifty condition in spite of too high pruning, sunburn and neglect in early years, speaks volumes for the future of the young orchards of to-day.

A Pleasants' Valley Residence—Fig. 2236.—The tasteful cottage shown is the residence of G. W. Thissell, one of the early settlers in Pleasants' valley and now one of the largest fruit growers. Mr. Thissell's place is in the eastern arm of the valley, as will be more definitely described in Plate IX. His residence is in one of the most romantic spots in the valley, and with its flower garden and its environment of orchard and native forest growths is rich in natural and acquired beauty.



PLATE VIII.



2715. View West across Pleasant's Valley to Miller Cañon and Blue Mountains.

879. Oak Tree smothered by Wild Grapes.

878. Peaches in November at E. R. Thurber's.

1035. Summer Residence of Mrs. G. M. Blake, of San Francisco.

354 1/2. A "Wild-cat" Scheme.

2385. Croquet Ground under the Fig Trees, at Mrs. Blake's.

883. Thurber's Fig Trees, 60 to 80 feet high
Corner-piece: Branch of the Nut Pine.

PLATE VIII.

View in Pleasants' Valley, Looking Westward.

THE view in this plate is westward from an elevated point on the ridge which extends northward from Putnam's peak, and shows a beautiful group of fruit farms centrally located in Pleasants' valley. The hills and mountains in the background are parts of the ranges which form the western boundary of the whole Vacaville district. In fact this picture gives the nearest view of the Blue Mountains which we have in the series, for Pleasants' valley is very narrow, and with its curving surface and high enclosing hills greatly resembles the trough of the sea between two immense waves, as can be best seen in the landscape on Plate VII. The hillsides of Pleasants' valley are more thickly timbered than those in the more southern parts of the district.

The wide opening in the background is Miller cañon, named, as already stated, after M. R. Miller, an early settler who established the Pioneer Ranch at the mouth of the cañon, which will be described presently. In Miller cañon is the site of the "basin" figured on our Frontispiece, which gives a key to the romantic scenery which its wide walls inclose. There are some clearings and settlements in this cañon but it is for the most part held and used as pasture land or in its native chapparal.

The immediate foreground of the picture shows a part of the orchards of E. R. Thurber, one of the best-known and most highly-esteemed residents of the Vacaville district, a director of the Vacaville bank and foremost in enterprising efforts looking to the improvement of the region. Mr. Thurber is a native of Rhode Island and before coming to California was a chemist by profession, and at one time served as superintendent of the Providence Gas Works. He came to California in 1850, and in 1858 settled in his present location in Pleasants' valley, which he selected because of its fitness for the production of early fruits and vegetables. His chief products during his first years in the valley were vegetables and live stock, but for the last 25 years his attention has been centered upon fruit production. At one time he had a

large area of wine grapes, between 40 and 50 acres, and built a spacious winery, but the incoming of the phylloxera destroyed the vines and Mr. Thurber accepted the conclusion, especially as orchard fruits were found to be more profitable than grapes, though he has lately tested resistant stocks and found them thrifty where the old *vinifera* were destroyed.

Mr. Thurber has something like 90 acres in fruit, and his orchards extend far beyond the limits of the picture on the right. His farm includes; first, a fine piece of level land adjacent to his residence and other buildings which are the structures nearest to the foreground in the picture; on this level are the fig, apricot, pear and part of his peach orchards. Besides the plantations on the level there is an orchard on the bench or natural terrace, on the east side of the valley; and this is shown in the immediate foreground of the plate. The influence even of a slight elevation is thus shown on a single farm, for it is found that peaches ripen and are disposed of before the same varieties on the level below are fit to handle. Aside from this fact of practical importance, the trees upon the different elevations give picturesqueness to the landscape which even a casual observer notes at once. The farm is in fact full of picturesque beauty. Grand old native trees shade the buildings and skirt the cultivated areas. The winding creek which crosses the level, boldly intrudes its tangle of shrub and vine into the vicinage of the well-trimmed orchard trees as though mocking at their bondage. And as one looks aloft through the foliage of the cultivated growths, he sees either the wooded heights on the west or the approaches to Putnam's peak on the east, with rock masses scattered among the trees; or the peak itself, contrasting its grim volcanic blackness with the verdure and bloom of the vale below. There are many beautiful natural settings for the orchard gems of the district, but, as we write, memory does not recall prettier scenes and vistas than those enjoyed at this hospitable home in Pleasants' valley.

Mr. Thurber does not seem to have been the first discoverer of the desirability of the spot where he has lived for 30 years. The aborigines knew it well; for though they had forsaken the valley before Mr. Thurber came in, vestiges of their earlier occupation are numerous. Arrowheads are abundant. At the winery there was evidently an old rancheria and a cemetery where stands the fig orchard. Thus Mr. Thurber has been following the traditions of his Rhode Island ancestors, who literally partook of the virtues of Roger Williams in the fruit of a mighty pear tree which grew over his grave, for he has been transmuting the early inhabitants of the country into the earliest figs which come into the market. On adjacent farms Indian remains are also found. There is on Mr. Dolan's a pit as of the peculiar institution known as the "sweat house"; and Mr. Pleasants has uncovered several skeletons on his place.

There are a number of notable horticultural achievements to be seen on Mr. Thurber's farm. His young Winter Nelis pear orchard shows how this perverse variety may be satisfactorily brought into proper form by giving the tree its own way at first and then shaping it to suit the grower's taste. He has a block of peach trees which were allowed to grow for eight or ten years

as Salways and were then topped off and Alexander grafts inserted. Out of about 250 trees thus treated all but three or four succeeded, and now are the best bunch of peach trees on the place and surprised everybody by the early and heavy bearing of the grafts.

A horticultural curiosity on Mr. Thurber's place which attracts much attention is a chestnut graft which has grown for seven years on a live oak stock and reached a height of 12 feet or more. It blooms freely and occasionally the burrs fill but the nuts are somewhat bitter.

Mr. Thurber is one of the largest fig growers of the district. His oldest trees are 26 years old and are variously estimated at 60 to 80 feet in height. They constitute a magnificent grove and cover a little over four acres, the foliage completely covering the ground, and forming a canopy of green beneath which it is delightful to seek refuge from the heat. The shade is also turned to practical account for fruit packing. The trees are too high to allow of picking the figs except those which grow on the lower branches, so they are allowed to drop and are gathered from the ground, as will be noted presently in mention of another sketch. A part of the first crop is sold fresh, as it comes early and brings high prices until the supply becomes too great. The balance of the first crop is not made any use of because it does not dry well. The second crop and the third crop, until it becomes too late in the season to dry well, are marketed as dried figs and are profitable, as very little labor is required in their preparation. The large trees are of the common California black or Mission variety. The location of the orchard can be seen by noting the large trees almost in the center of the orchard area of the landscape; and a nearer view of the end of one of the rows is given in the lower left-hand corner sketch, Fig. 883. Mr. Thurber has given much attention to figs, and tries all new importations in the hope of finding the true fig of commerce. He has a number of acres of young black fig trees which he expects to work over into the true variety as soon as indications assure him that it has been secured. In the management of the ranch he is ably seconded by his son Rufus; and in his employ also is Mr. W. H. Gibbs, who has filled an important place for many years.

The county road in Pleasants' valley passes along the farther side of Mr. Thurber's orchards, and just at the base of the western hillside. Soon after passing his residence, as one goes southward (or toward the left in the picture) the road curves eastward and then southward, so as to take a course nearer the center of the valley. The next farm to Mr. Thurber's is that of John Dolan, who was associated with A. W. Putnam in pioneering the early vegetable industry of the district, as will be described by Mr. Putnam in Part II of this work. Mr. Dolan has 200 acres, of which about one-quarter is planted to fruit trees. There is an old strawberry peach orchard of which the trees were planted by Mr. Putnam in March, 1857, in dormant bud. The trees have always borne good crops and are still vigorous, though they are planted much too near together, and Mr. Dolan has been prevented by bodily affliction from giving them the personal attention in care and pruning which he would like. Mr. Dolan has seen great changes in the natural and industrial growth of the

valley during his residence, and notes especially some cottonwood saplings which were the right size for fence bars when he first saw them and are now fine trees three feet in diameter. His land was purchased in 1856 and his residence built that year. The visitor finds much about the place which is attractive and interesting.

Next south of Mr. Dolan's is Washington Johnson's. Mr. Johnson came to California from Pennsylvania in 1858, and arrived in Pleasants' valley in 1860. He bought part of the Putnam place, which he now owns, quite early, though he has sold and re-purchased it since that time. Mr. Johnson has been a very useful man in the neighborhood, and made a good record when in the service of the older settlers of the district. He has now a fine large residence and a thrifty orchard, and his place is well kept and creditable.

We come now to the largest orchard shown in this view and one of the best known in the district, the Pioneer Ranch, owned by Mrs. G. M. Blake, of San Francisco. All the buildings on the extreme left of the landscape belong to this establishment, but the view only includes a small part of the orchard. It begins at the mouth of Miller cañon, spreads out along the hill on the south, as shown by the clearing which is seen in the picture and then carries its breadth eastward, crossing the county road and extending up on the eastern hillside, thus occupying a large area of fine valley land as well as gentle slopes adjoining. There are 320 acres in the ranch and about 125 acres of fruit of different kinds, excellently assorted to meet early and late marketing. There are 22 acres of grapes, 25 of peaches, 40 of apricots, 30 of pears, and several acres of apples, plums and figs. The ranch was started with fruit in very early days by M. R. Miller, but its great development and improvement date from its purchase by the late G. M. Blake, who bestowed everything necessary to bring the property to a fine condition of productiveness, and to equip it as a delightful residence. Since Mr. Blake's death, Mrs. Blake has conducted the business with the able assistance of Mr. Thomas H. Thompson as superintendent. Mr. Thompson is son of Simpson Thompson, and was associated with him in the celebrated Suscol nurseries back in the fifties. Thus he is probably exceeded by no one in length of experience in California fruit growing; and he takes constant interest in keeping himself well informed in the progress of the horticultural art, the local adaptations of old and new varieties, etc. Since he has been in Mrs. Blake's employ he has worked over thousands of trees and vines of unprofitable kinds and introduced well-proved varieties in their places. These grafts are constantly coming in bearing, and they, with the great acreage of new trees planted, give assurance that the property although it has an old name is as full of youth and vigor as any in the district. Mrs. Blake is constant and earnest in her desire for the fullest improvement of the property and is liberal in her policy of management. The establishment is well fitted to awaken pride of ownership in it.

MINOR VIEWS.

Some of the lessons of experience with trees on Pioneer Ranch will be introduced elsewhere in this work. In this place we would especially note the

excellence of the buildings and the taste displayed in laying out the grounds around them. The residence with its long and wide verandahs is shown in the corner piece, Fig. 1035. The picture also catches a part of one of the old oaks standing in the dooryard. This one is being invaded by a vigorous ivy vine which wholly obscures its trunk. The view was taken December 1, and at that time the fine collection of chrysanthemums gave a blaze of color which contrasted beautifully with the subdued tints of the building.

Quite near the house is a grove of old fig trees, beneath which a croquet ground has been laid out as shown in Fig. 2385. This scene shows the manner of collecting the figs as they fall to the ground, as mentioned in connection with Mr. Thurber's grove. The productiveness of the trees may be inferred from the fact that the ground is thickly strewn with fruit. After falling, the figs are placed in the sun on trays or drying boards for two or three days, then they are rinsed in cold water, allowed to stand over night and finally packed tightly in boxes for marketing, or sold in white cotton sacks if the purchaser wishes to do his own packing.

November peaches are shown in the small sketch, Fig. 878. The photograph was taken on Mr. Thurber's place November 1, and the fruit was soon after gathered and shipped to Chicago, netting the producer over \$2.00 per box. The fruit was high colored, but the taste would not bear out a judgment formed of the fruit by the eye; still the Chicago people thought enough of the fruit, probably for adorning Thanksgiving dinners, to pay a high price for it. This fact has already been noted in the experience of other shippers of very late fruit.

The vine-clad oak shown in the circular sketch, Fig. 879, is one of the notable sights in Pleasants' valley. It stands at the crossing of the creek and the main road, near Mr. Thurber's. The height of the tree can be inferred from the figure of the man. Notwithstanding the size and age of the tree it came to its death within the memory of people in the vicinity, by the too thrifty growth of the wild grapes which have completely smothered it. No wonder those who observe on the one hand such magnificent growth of the native wild vines (*vitis Californica*), and on the other the killing out of European varieties by phylloxera, are encouraged to graft the latter on roots of the former.

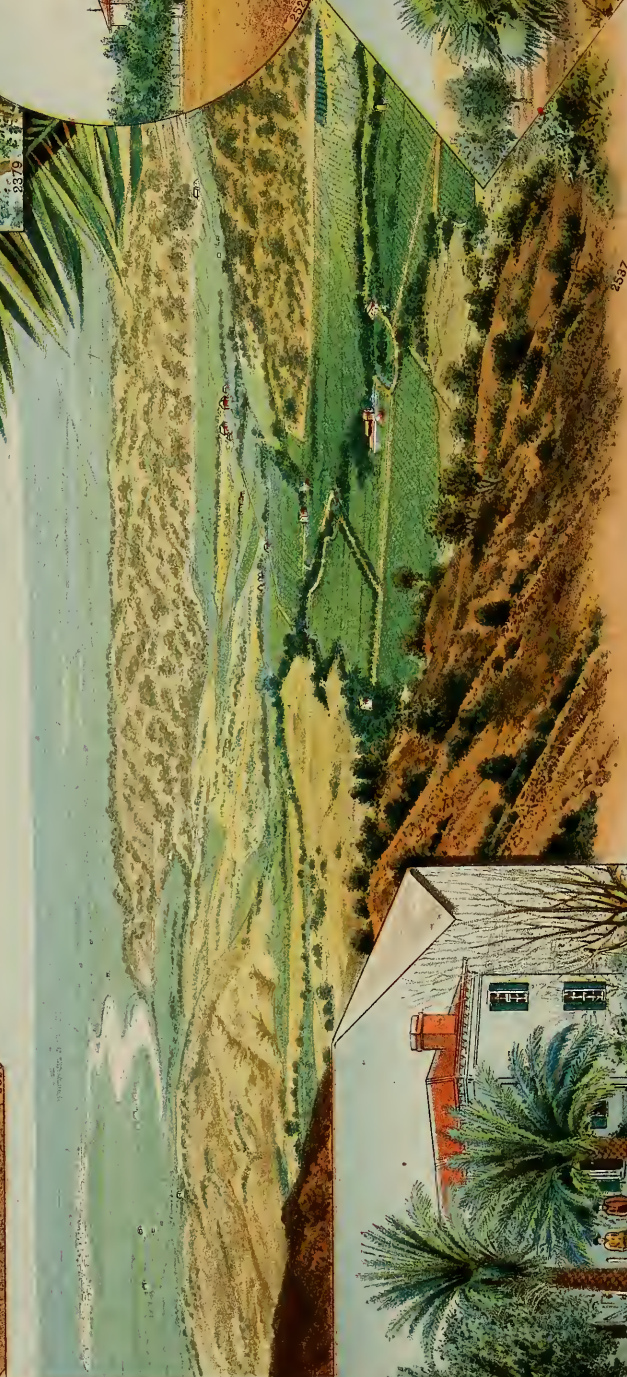
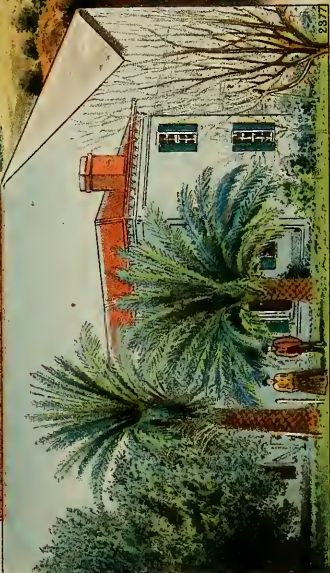
The ornamental corner piece in the left upper corner of the plate, figures the foliage and the cones of the Digger pine, and a parasitic growth which fastens itself upon it. The tree is named "Digger pine," from the use which the Digger Indians make of its edible seeds as food. It is also called the "nut pine." It is in reality Sabin's pine (*Pinus Sabiniana*.) A group of the trees is seen in the immediate foreground of the landscape. Sabin's pine does not send up a central shaft as do the best timber pines, but makes a branchy growth and seldom affords a saw log of any size. Its wood is, however, useful as a soft wood fuel; and its nuts are highly enough esteemed to be found in the San Francisco market. The tree occurs singly or in groups and not in forest. It grows both on the Coast Range and the foothills of the Sierra Nevada up to a certain height. The late B. B. Redding looked upon this tree as furnishing indications of a mild temperature and abundant rainfall, and therefore

an index to the fitness of lands which it thrives upon for general purposes of fruit growing. He says of it : " It is never seen in the valley nor on the hills below an elevation of about 400 feet. It is not found at a higher elevation than that in which the temperature is the same as that of the valley."

In the lower right-hand corner is a sketch thrown in for the entertainment of our younger readers. The two dogs " Ned " and " Sammy " are esteemed by Mr. Thurber's household for their general goodness, and admired by the visitor for their sagacity. The little fellow, Sammy, is highly educated and sat for his picture in the clump of blooming narcissus, while Ned looks on with patronizing interest as he commonly does when Sammy is performing. But there is another animal in the group—and thereby hangs a tale. The two dogs are amateur hunters and hunt in company. One of their favorite pastimes is treeing coons and wild-cats. When the game is treed Sammy leaves Ned to hold the game and trots back to the house to inform the third party to this " wild-cat scheme," who is Ah Soon, the cook. Ah Soon shoulders his gun, follows Sammy to the tree and shoots the game, much to the delight of the dogs. The photographer happened to be on the ground just after a successful hunt of the kind described and took the negatives 2534 and 2535, which being " limned by the unerring sun," must vouch for this record of canine intelligence. These dogs with another have been known to thus bring in three coons in a single moonlight night.



PLATE IX.



537. View from Pleasants' Valley, down Putah Creek to Winters, and across the Sacramento Valley to the Sierras.

2530. Fan Palm and Orange Grove at Briggs Bros.
 2531. Orange Grove and Residence of Mrs. S. C. Wolfkill.
 2532. Ripe Dates in a Date Palm.

PLATE IX.

Lower Pleasants' Valley, Putah Creek Region and Winters.

THE landscape on this plate follows close upon the view in Plate VIII and represents the lower or northern portion of Pleasants' valley and the country on both sides of Putah creek, all of which is tributary to the town of Winters as a shipping point, and is sometimes called the "Winters Fruit Belt." It constitutes the northernmost portion of the Vacaville district. Politically all the country on the south of Putah creek (or the right side as the picture shows it) and from the foreground to the distant range of hills, is a part of Vacaville township, but the proximity of Winters as a shipping point and the recent construction of a new road thereto from Pleasants' valley, makes its commercial affiliations tend in a direction contrary to its political relationship. Geographically, too, the country is tributary to Winters, for the slope of the valley is northward instead of southward as in Vaca valley, as has already been pointed out. There are, however, a mixed sovereignty and rival claims to the favors of this part of Pleasants' valley on the part of the two shipping and trading points, and the outsider who attempts to arrange matters between rival suitors is not wise. We discuss the matter merely from a geographical point of view.

It is an interesting fact that the Vacaville district illustrates in itself what is also true, though in a greater degree, of the whole district as compared with other parts of the east side of the Coast Range, even to the southern boundary of the State, viz.: the northern part ripens fruit earlier than the southern. This is quite contrary to the ordinary rule of latitude as affecting climate, but it is a fact that local topography is so powerful in fixing climatic conditions in California that the effects of latitude are overcome and ordinary results reversed. The whole Vacaville district is a month or more earlier than any point south of it, at similar distance from the ocean, even in Southern California; and the orchards in Pleasants' valley and the upper or western part of the Putah creek slope are several days earlier than the more southern

valleys of the district. How far northward along the east side of the Coast Range this condition of earliness will be found to extend, is not yet fully determined.

The landscape of Plate IX has for its horizon line the crests of the Sierra Nevada mountains, approximately 100 miles away. Spread out in the background is the great plain of the Sacramento valley. The farther hills are a part of the low range which forms the eastern boundary of Pleasants' and Vaca valleys, and the hill in the central distance is another ridge of the same range,—the one specifically mentioned in Plate VII as a continuation from the north wall of Putah cañon. The rising line of the ridge in the right center of the picture is one of the approaches to the crowning elevation, Putnam Peak. The hillside in the foreground is a part of the general western boundary of Pleasants' valley. Along through the center of the orchard area of the valley flows Pleasants' creek, as indicated by the large trees which line its banks. Where the valley broadens out it flows to the eastern side and pursues its course to the Putah, beyond the dividing ridge which is seen on the center of the lower valley.

PLEASANTS' VALLEY FRUIT FARMS.

As a matter of convenience we will begin our description of the valley farms with the one nearest in the foreground and proceed thence toward the town of Winters, as goes the fruit in shipping time, stopping, however, to note the places as we approach them.

The first farm is that of W. J. Pleasants, a native of Kentucky, who came to California with his father in 1849, and settled in this valley the following year. He has 2,000 acres, hill and valley land. It extends beyond the limits of the engraving on the right until it joins the north line of E. R. Thurber's farm, of which mention is made in the preceding plate. Mr. Pleasants' possessions also extend toward the left, taking in part of the large unplanted area this side of the ridge, this land now being used for pasture and field crops. His farm buildings are located around the circular opening in the center of the valley, which is a spacious, park-like court to which open access is had from the residence and other buildings adjacent to it. All around this are seen the orchards, about 100 acres in all, of peaches, apricots, prunes and pears. Many of these are in full bearing and the amount of fruit harvested last year was immense. One item of the product was 175 tons of green fruit which yielded 30 tons of dried, for which he received an average of 17 cents per pound for peeled peaches and 14 cents for unpeeled. There were busy scenes when this work was being done last summer. On a single day, August 18, 35 hands, many of them boys, peeled, cut, spread and placed on the drying ground 20,240 pounds of green peaches. A view of the drying ground at this time may be seen in Plate I, Fig. 2353. Mr. Pleasants employs 12 hands the year round. His observation is that one-quarter to one-third of those necessary during the fruit harvest can be employed the year round; but Mr. Pleasants has a large ranch and consequently much more outside work to be done at other times of the year, than orchardists usually have.

One of the features of Mr. Pleasants' place is his orange grove. He has a good lot of trees from 15 to 25 feet high, on a bench which is elevated about 75 feet above the floor of the valley. It can be seen in the picture on the hillside at the extreme right. The first trees were planted in 1870. They have never been irrigated, nor in fact have they even been well cared for otherwise, and yet there is nothing more profitable on the place, as he gets some years from \$250 to \$350 for the fruit of 50 trees, of which about 35 are in full bearing. They ripen very early and therefore can be sold for \$2.50 for a 30-lb. box, which holds from 80 to 110 oranges. The fruit is sometimes hurt by the frost in severe years, but the trees have not been injured. A view of one of these orange trees is given in the sketch, Fig. 914, on Plate VII.

Mr. Pleasants has peach trees from Kentucky pits planted in 1856, which are still vigorous and thrifty, and most of them were long ago grafted over to good varieties. He says he sees no signs of death from old age in the trees; where they show weakness, it has resulted from ill-treatment.

On the land of W. J. Pleasants the road takes an easterly turn, passes the district school-house, and soon the well-built residence of J. M. Pleasants appears. He is the father of W. J. Pleasants, and is also a native of Kentucky, and came to the valley which bears his name in 1850. Mr. Pleasants has had a life-long acquaintance with the growth of fruit and immediately began the foundation of an orchard on establishing himself in the valley. An account of some of his early work is given in connection with the sketch of his old apricot orchard on Plate VII. He has now 30 acres in fruit, including apricots, peaches, apples, pears, prunes, persimmons and grapes. Though quite an old gentleman, grandfather Pleasants is still hearty and vigorous, and enjoys life in the home which he chose so long ago because of its delightful climate and general desirability for home making. He is highly esteemed by his neighbors and is keenly enjoying the progress of the region which he has done so much to develop.

Passing J. M. Pleasants', one soon approaches the dividing ridge in the valley, to which allusion has already been made. Upon the eastern slope of this ridge are some of the most famous orchards of the valley, as will soon appear. These orchards also fold over the top of the ridge to a certain extent so that they are visible to one approaching from the west, but much of the western slope is not thought to be as good as the eastern.

Just before reaching the ridge one comes to one of the peach orchards of G. W. Thissell & Son, and the residence of William Thissell. This is a very fine young orchard of the Lovell variety, which originated with G. W. Thissell. The writer was fortunate in visiting the orchard in August, 1887, when the fruit was ripe. From one tree four years from the bud, there were picked nine full baskets, containing in all 540 peaches which weighed 180 pounds, or an average of three peaches to the pound. There were many trees in the orchard quite as well laden. Passing this place, the road and the creek make use of the gap in the ridge to reach the eastern division of Pleasants' valley, to which reference has been made.

The large buildings on the east side of the valley and beyond the gap mark the location of the orchards and vineyards of H. and W. Brinck, well known fruit-growers and shippers. The elegant residence of Henry Brinck is located on an elevated site on the south side of the road, from which a good view of much of the adjacent country can be obtained. Looking northward directly in front is a low cliff, picturesque with its sandstone strata laid bare, with here and there hardy shrubs clinging to its face. Directly atop of it, from the very edge and stretching upward and onward toward the northwest are apricot trees, marshalled in true lines, to the elevated line of the horizon; the extreme point being the orchard upon the well-named Sky-high ranch of G. W. Hinclay. To the front and a little to the right, one looks through the narrow valley thickly set with the orchards of Brinck Brothers and G. W. Thissell, and still beyond obtains a glimpse of the open Sacramento valley. All along on the right runs the line of hills, orchards and vineyards to their base, and native oaks and pines upon the sides. Turning slightly toward the southeast one sees the small and well-cultivated places of Rhodes and Merrill, and on the south and west are the Austins and Wertner—all these enterprising planters having contested possession of the slope and secured profitable orchards and desirable homes, as will be mentioned presently.

Brinck Brothers have 150 acres in trees and vines. They came to the valley 15 years ago and have succeeded in securing a fine production and reputation, and have made excellent improvements on their property. They are large shippers of fruit to the East and during one week of last August packed the fruit and loaded five carloads for Chicago—some of the fruit to make up car lots coming from the adjacent ranches of E. R. Thurber and W. J. Pleasants. They have furnished us interesting data concerning their shipments which will appear in the proper connection. Recently William Brinck has purchased a large tract of bottom land for an orchard on the north bank of Putah creek, a few miles north of the home place.

In the corner of the valley near the Brincks' place and on higher ground the group of smaller orchards, before mentioned, are especially significant in demonstrating what can be done with good work on small parcels of ground. This locality lies beyond the ridge which is seen on the right side of the landscape, and some of the buildings are in sight in the picture; others are hidden by the elevation mentioned.

First, southeast of Brincks' is the 50 acres of W. D. Rhodes, who purchased his place in 1875 for \$12 an acre, and has shown how by earnest and intelligent work in a naturally good location values may be multiplied. He has about 15 acres in bearing, mostly apricots, of which he grew his own trees. He advocates his elevated position as furnishing early fruit from high land not over supplied with moisture, these conditions giving fruit which ships well. Mr. Rhodes sustained an injury during the war which led him to seek a more gentle climate than his home in New York, and he has secured what he desired in his present location.

Higher than Mr. Rhodes' place and joining it on the south is the orchard of F. M. Merrill. Mr. Merrill chose his place in part for the beauty of the

outlook and the mildness of the climate; but he finds that his small place of ten acres, mostly apricots and early peaches, furnishes him plenty to do and the means for an honest livelihood. He has come but recently to the region, but believes that his present loyalty to his new home will increase rather than diminish, as he finds to be the case with older inhabitants.

Southwest of Brincks' are the places of Dr. W. H. Austin and H. P. Austin. The former came to California to escape the severity of eastern winters. He bought at first 15 acres, but has sold 10, retaining but 5 acres. He began planting trees as early as 1874, a few at a time. Recently he has given much attention to canning fruit by means of an "orchard cannery," for which he has secured letters patent. His fruit was awarded a first prize at New Orleans in 1884, and at Louisville the following year. H. P. Austin has 20 acres, of which 10 are in bearing fruit trees. He began planting in 1877, and has succeeded in freeing his place from a mortgage as well as in securing a livelihood.

Higher on the hillside, above the places mentioned, is the 15-acre orchard of F. N. Wertner, which was located in 1879, though the owner had been a resident of the valley for six years previous. Mr. Wertner grows apricots and peaches chiefly, but he has also prunes, figs, apples and English walnuts. His apples bore some fruit the fourth year. He grows early vegetables, and to secure means for extending his orchard he has cleared off a small piece each year and raised vegetables between the trees while they were young. He makes enough on the vegetables to pay for cost of trees and of cultivating and believes the trees get better cultivation than they would otherwise. The land was worth \$30 per acre in 1879, it being then covered with oak trees and brush. In January, 1888, ten acres of land with growing fruit trees, adjoining his, sold for \$400 per acre. Mr. Wertner began in 1879 without a dollar, and now owns the place clear, besides horses, implements, a good dwelling and other improvements paid for out of the income from the land.

We have made special mention of this group of small hillside places, because it is the only site in the district where so many families are established on so small an area. It seems to us very significant of the future of small orchards, and we have no doubt ere long the hills of the district will be thickly dotted with similar homes. Above this group of places a mile or so farther south in the hills, are the farms of W. S. McBride and of McCuen & Garnett, beyond Putnam Peak as shown in Plate V.

We return now to the county road passing through the Brinck place and continue our course toward the town of Winters, through the eastern arm of Pleasants' valley. This division of the valley is really a picturesque glen, with only small areas of level land, but much sloping hillside on which the soil is rich and deep to the very top of the ridge to which we have already alluded. This ridge is much lower than the mountains which form the eastern and western rims of the valley, and yet high enough to catch the earliest sun-heat, thus enabling Winters to claim the earliest peaches and

apricots as belonging to its parish. We shall have in Part II of this work full statements of dates of shipment from the leading growers in this location. We have noted the appearance of this ridge from its southern and western sides. Viewed from the east, as one proceeds up the glen, it is seen to be fully covered with fruit trees.

Near where the glen widens out at its lower or northern end, but concealed from view in the landscape by the crest of the ridge, is the residence of one of the best-known fruit-growers of the district, Mr. G. W. Thissell, whose dwelling has already been shown in Fig. 2336, of Plate VII.

Mr. Thissell is one of the early settlers of the valley, as he came to his present location in July, 1857. He took up his land to grow stock, but after paying J. M. Pleasants on the summer of his arrival \$2 per bucketful for peaches he became infected with the fruit fever. He planted the pits from the Pleasants' peaches and went out afterward to hunt up trees. He loaded six hogs into his wagon, tied a cow behind and started out after trees. The hogs he sold to Chinamen and swapped the cow for trees, obtaining a few apples, peaches and apricots. He followed the vicissitudes of the fruit business through its alternating elevations and depressions and was ready with a large fund of experience to branch out vigorously when the present era of profitable fruit-growing began. He has 175 acres of land on his home place, of which 120 acres are in orchard, and with his son John, he owns 80 acres additional, of which 60 acres are in fruit. Mr. Thissell has originated several excellent varieties of fruit, which will be noted in the chapter concerning the new fruits of the district. We have already mentioned the bearing of the Lovell peach. The Muir peach of which Mr. Thissell is to be credited with the discovery and introduction, is also a heavy bearer. During our visit last summer we saw many acres of three and four-year-old trees of these two varieties—perfect pictures of abundance in the crop they were then carrying. One Muir tree three years from the bud, which was stripped in our presence, yielded 236 peaches, filling 3 baskets (or 60 pounds) and probably half a basket had previously been removed from the tree at the first picking.

Mr. Thissell has one of the best-kept places in the district, and is so skillful in handling the superior drying fruit which he is growing, that he has made long contracts in advance at very profitable prices.

Above Mr. Thissell's and on the summit of the ridge, as may be seen in the picture, is the Sky-high ranch of G. W. Hinclay, famous for its early fruit. Mr. Hinclay came to his present home in 1864, in a rapidly sinking condition from consumption; and he assures us that in regaining health by outdoor life in this delightful climate he has fully realized his most sanguine expectations. His recuperation was so rapid that after the first year's experience he bought the place he now owns and began active work in fruit-growing. He has a slightly place of 90 acres, of which about 30 acres are in fruit, nearly evenly divided between peaches and apricots. He also grows very early vegetables and is now giving some attention to early ripening grapes. Telegrams from New York credited Mr. Hinclay with the first apricots of the

season of 1888. The fruit arrived in good order on May 23d, and sold at five dollars a box for ten-pound boxes.

Returning to the valley we continue our journey to Winters, taking the new road which follows for a distance along the base of the hills on the eastern edge of the valley and the south shore of Putah creek, as may be seen in the picture, and thence across the splendid uplands of the Wolfskill property. Where the road skirts the hills it gives a fine view of the rich ranches of the Putah region, from the mouth of the cañon all along on both sides of the creek, to the town of Winters. The new road fills a long-felt want and enables the Pleasants' valley growers to reach their shipping point at Winters easily, and gives them entrance and egress during the rainy season, which was often interrupted over the old road because of the necessity of fording the Putah, which in wet seasons becomes an impassable torrent.

After leaving Mr. Thissell's the road passes through the property of H. G. Finch, an old settler in the region, and from thence almost to the town of Winters the road runs through the property of J. R. Wolfskill, except where it crosses the farm of his brother, the late S. C. Wolfskill. John R. Wolfskill is the pioneer of the district, and he still lives full of years and of honors; lives, too, in affluence, surrounded by an affectionate family and esteemed by all;—which is but a fitting reward for his foresight in planting an American foot so early upon so good a country, and a fitting recompense for the privations and hardships of the earlier years of his occupation. In our chapter relating to the history of the district, we shall attempt a brief outline of Mr. Wolfskill's life and deeds during his forty-six years of continuous residence on the south bank of the Putah.

The original grant to Mr. Wolfskill included 17,000 acres of land; of this he still owns about 6,500 acres, or rather has apportioned to his children the greater part of it; retaining for his own management but the farm immediately adjacent to his residence. The children who thus participate in the ownership of this splendid property are his oldest son, Edward Wolfskill, one of the most enterprising and generally esteemed business men of the town of Winters, and his daughters, Mrs. Goodyear, Mrs. Bonney and Miss Fannie Wolfskill. The location of the property can be best defined in connection with the landscape on Plate IX. It begins just east of the northern part of the central ridge in Pleasants' valley, with a fine piece of bottom land leased by Mr. Porter, and passes thence eastward covering most of the hills on the east side of Pleasants' valley, as shown in the center of the landscape; and continuing eastward, on the south side of Putah creek, with an average width of $2\frac{1}{2}$ miles, beyond the town of Winters, nearly eight miles from the point of beginning. All this area belongs to the family of John R. Wolfskill except 1,200 acres of Mrs. S. C. Wolfskill, 220 acres of Briggs Brothers and 900 acres of Mr. Baker,—the two last-named being immediately adjoining the town of Winters.

Other notes of interesting and significant horticultural achievements by John R. Wolfskill and his brother S. C. Wolfskill will be given in connection with the references to the minor views on this plate.

OTHER PUTAH CREEK FARMS AND ORCHARDS.

Instead of entering the town of Winters from the south side of the Putah, although there is an excellent bridge at that point, we will return now to the upper part of the Putah region and cross to the north side and approach the town in that way, because this course will lead us through some of the richest and most famous farms of the region.

In the foreground of the small sketch of the upper Putah country (Fig. 2538, Plate VII), appears on the left the site of the Porter place, owned by Mr. Wolfskill and leased by Mr. Porter; next are the orchards and vegetable lands of Mr. Wiggins and Mr. Tucker, the latter of whom is credited with marketing the first summer squash of the season of 1888. Beyond these places, and partly upon the slope entering the picture from the left, begins the Sackett ranch previously described. Crossing the Putah and turning toward Winters on the north side, the first place is that of James Dimond, who has 40 acres; next, on the east, W. B. Reed has 216 acres on which he has just erected a house and planted an orchard. Farther eastward, lying beautifully to the sun and in excellent culture, are the orchards which Prof. W. T. Reid, of the Belmont school in San Mateo county, owns jointly with his brother, the latter resident upon the place. Upon this place there were formerly large quantities of vegetables grown, but fruits are now the chief product. Quite a large plantation of white Adriatic figs has been made. Adjoining is the old-established place of V. Slade, about 200 acres in all, of which 40 acres are in orchard and as much more devoted to early vegetables. Next to Mr. Slade's is the Allison place recently bought by William Brinck. Frank Huckins, near by, has 40 acres devoted to a similar crop and B. R. Sackett, already mentioned, has another 40 acres. J. A. Devilbiss has a farm of 400 acres extending nearly to the town, of which about a quarter is given to horticulture. Just west of Mr. Devilbiss' estate 100 acres were bought in 1887 for \$14,000 by Mr. D. B. Derby of Vacaville, who has some Eastern friends associated with him. Mr. Derby has already been mentioned as agent of the California Nursery Company, and is a man of large experience and observation in the adaptation of land for fruit. The piece he has chosen lies close along the creek and has a very rich deep soil. He planted in February of this year the greater part of the place with apricots, pears and peaches, selecting but few varieties and they especially adapted for shipping, canning and drying. J. N. Johnson also has a fruit and vegetable farm in the same neighborhood. These fruit and vegetable farms all lie on the north side of the Putah between the hills and the town of Winters, and can be located in the middle distance on the extreme left of the landscape in Plate IX. The best land lies nearest the creek; for it consists of fine alluvial soil which has been brought down by the water and deposited before the Putah cut its banks so deep that overflow at this part of its course is impossible. Farther from the creek there is a red gravelly soil which is warm, but less fertile and less retentive of moisture.

THE TOWN OF WINTERS AND VICINITY.

The town of Winters is approached from the west through an area of small orchards which are considered so valuable by their owners that there have been sales as high as \$400 per acre with trees of bearing age. Still farther northward there are also young orchards which from their proximity to Putah region are expected to prove early. At intervals there are slight ridges extending out upon the valley which have been formed by creeks flowing from the hills; and the soil on these elevations is exceptionally good. In such a situation, about 2½ miles north of Winters, Mr. Levi Morris has 480 acres, of which 100 acres are in fruit of assorted variety, the trees four years old and of exceptionally good form and vigor. Mr. Morris uses the water of a stream which crosses his place for winter irrigation of his orchard and alfalfa fields. The water flows only in the winter and then, coming from a large watershed in the hills which is used as a sheep pasture, it carries and deposits on the land a very effective fertilizer. Eastward of the town of Winters there are also orchards for a considerable distance. The fruit interest is now rapidly replacing the growth of vegetables and of grain. Some of the large holdings are likely to be subdivided, and we are told that good fruit land can be had for \$150 per acre in small or large tracts.

Winters, which has already been mentioned as the shipping and trading point for the prosperous region shown in Plate IX, is an eligibly situated town on the north bank of Putah creek. The townsite was laid out by the Vaca Valley and Clear Lake Railway Company in 1875 and was named after Theodore Winters, a prominent farmer and breeder of fine horses, who owned the Matthew Wolfskill interest in the Los Putos rancho of which the townsite is a part. Though but a young town it is counted the second in importance in Yolo county.

Winters is well equipped for business. The Bank of Winters has a capital of \$100,000. Its officers are E. Wolfskill, President; W. Sims, Vice-President; Emile E. Kahn, Secretary; J. B. McArthur, cashier. The Buckeye Grangers Warehouse Association stores grain, and has buildings with a capacity of 15,000 tons. The railway station and freight house is a neat building about in the center of the town. There are three large dry goods stores, one grocery and general merchandise establishment, two hotels, livery stable, etc.

The educational and religious welfare of the town is well provided for. There is a good public school, and the Winters seminary, of which Mrs. S. N. H. Newton is principal. There are five church organizations, of which four have handsome and well-furnished places of worship. The following are the pastors of the respective churches: Methodist, Rev. R. F. Allen; Episcopal, Rev. Mr. Breck; Presbyterian, Rev. H. C. Culton; Christian, Rev. Philip Bruton; Baptist, Rev. J. D. Gregory. Of benevolent orders there are lodges of Masons, Odd Fellows, Knights of Pythias, Good Templars, G. A. R. and A. O. U. W.

The local newspaper, the *Winters Express*, edited by H. N. Rust, is a wide-awake journal which contains in its weekly issues much information of the industries and resources of the region.

Winters commends itself to the visitor by its thrift, enterprise and stir. The rich district surrounding it, with its agriculture constantly becoming more extended and diversified, seems to promise growth and increasing importance.

MINOR VIEWS.

Date Palms.—*Figs. 2377 and 2379.*—The Putah creek region is entitled to fame as the first locality in the United States to produce the date of commerce. There were date palms at the old missions, but no record of their fruiting is found, and other dates have been planted by Americans in Southern California, but had not fruited up to 1877, when clusters of dates were shown at the Mechanics' Fair in San Francisco from the same trees which were photographed by our artist last fall, as shown in Fig. 2379. These trees are growing on the place of Mrs. S. C. Wolfskill. Another bearing date palm is near the residence of John R. Wolfskill, as shown in Fig. 2377. The date palm bears its staminate and pistillate blossoms on different trees, and of course the association of the two is required for the perfection of the fruit. Fortunately the two trees shown in Fig. 2377 are of different sexes and as would seem fitting the taller is the male, though it does not appear that nature planned such an arrangement with the date. The smaller palm began bearing fruit in 1877, the same year the fruit was produced on the trees on the other ranch. It was then 15 years old, as the seed, taken from a dried date, was planted in 1862. The dates are not of the same variety, as one is a bright yellow, about an inch and a half in length and never ripens. The fruit on the small tree in Fig. 2377 is of a red color and becomes ripe and of good flavor. The date palm in fruit is a beautiful sight. The glaucous green pinnate leaves (one of which the artist has thrown across the plate) arch outward. Between two of these emerge the bright orange yellow polished fruit stalks, which divide into a spray of slender bright yellow stems a foot or so in length; and thickly set upon these in clusters are the coral red date-berries covered with a rich bloom. It is a sight not easily forgotten by a lover of nature and especially by one reared in a northern zone, the characteristic vegetation of which is so different; and, as Mr. Wolfskill says, it is a wonder people in warm sections of the State do not plant more date palms instead of so many fan palms, for they are fully as handsome and graceful besides the pleasure of seeing and eating their fruit. The success of these beautiful trees in the Winters district is an unimpeachable testimonial to the salubrity of the climate.

Residence of John R. Wolfskill.—*Fig. 2377.*—Aside from the palms, this view shows a portion of the residence of Mr. Wolfskill, a fine structure with large rooms and high ceilings, constructed of a cream-colored rock of volcanic origin, which is quite soft when freshly quarried from the hills not far away, but becomes exceedingly hard by exposure to the air. It is also fire-proof,

and the grand old-fashioned fire-places of the dwelling are made of it. The large tree which is crowding the larger date palm is an olive, of which there are a large number both on this place and Mrs. S. C. Wolfskill's. They have borne heavy crops for many years, and now have yielded most of their twigs—and even some of their larger branches—to the great demand for cuttings to start olive orchards all over the State, Mrs. S. C. Wolfskill having sold 124,000 the present season.

Residence of Mrs. S. C. Wolfskill.—*Fig. 2528.*—This was formerly the residence of John R. Wolfskill, and on land adjacent to it he did his earliest work in fruit-growing. Some of the oldest trees are still standing. Perhaps the most notable is the fig grove, the oldest in the district; for they were planted in 1851, the sprouts having been brought from Los Angeles, as they did not think then that cuttings would grow. We had the satisfaction of measuring some of these trees last summer, and found a girth of 7 feet 8 inches, one foot from the ground. The trees stand over 70 feet in height. The trees on the left of the house are oranges and in good bearing. The site of the house is well selected,—immediately upon the bank of the Putah.

Orange Groves.—*Figs. 2524 and 2530.*—Two views are given of young orange groves. In the lower right-hand corner is a glimpse of the orange orchard on the place of Briggs Brothers, which is famous for its raisins. In the foreground is a California fan palm (*Washingtonia filifera*), a native of Southern California, which shows well the general uniformity of California climate by thriving in all the valleys from San Diego to Shasta county. It closely follows the orange as an indication of climatic limits. The upper left-hand sketch is a view of the younger orange trees east of the residence of John R. Wolfskill. He has a large plantation of thriving trees, which ripen their fruit very early. Mr. Wolfskill is a most enthusiastic horticulturist, and delights in the introduction of good things from all over the world. Near his orange trees he has an Eastern shell-bark hickory, from a nut planted in 1875, which is now over 20 feet high and bore a few nuts last year. He also has pecans, from nuts planted in 1878, which have been in bearing some time and have attained twice the girth of the hickories. He has also the Eastern butternut, and a French variety of the English walnut or Madeira nut, which was grafted on California black walnut stock in 1875, and now has a height of 50 feet, a spread of 60 feet and bears three grain sacks of nuts a year; and these are only a portion of his horticultural treasures.

Family Gatherings in the Fruit Orchards.—*Fig. 2345 A.*—This pleasing picture is a typical one in the orchards of the Vacaville district during the apricot and peach harvest. Fruit cutting is an occupation which admits of social features and it is not uncommon to see the family, down to the smallest toddler who can handle a knife without danger to its fingers, all at work together, splitting the delicious fruit and placing it on trays for exposure to the sun's rays, as shown in this and other pictures already noted. Nor does the family alone participate. Many acquaintances and friends come from long distances to help along with the fruit and enjoy a visit at the same time; for it

is quite possible to fix up the affairs of the nation as they should be, or to discuss the foibles of the neighbors, which are as they shouldn't be, while the fingers are busy with the fruit. It is so handy, too, to illustrate the softness of neighbor Doodles' head while you are trying to handle an over-ripe free-stone, or to remark neighbor Skinflint's penuriousness while you are struggling to pit an obstinate cling. But of course gossip is not the ruling theme; there are grand good times out among the trees and under the bowyer-like shelters of the orchard. Good nature is the result of plenty of pure air and rich ripe fruit and refreshing nights' repose. Music lends her charms to the occasion, and all around it is hard to imagine an outing more healthful and delightful and at the same time more profitable to all concerned. Such is the scene which our photographic artist secured last summer on the place of F. N. Wertner, and from which our sketch is made. It represents a family group, including relatives from New Bedford, Mass., who had gathered in the summer evening to carve melons to music, as a recreation after the day's contest with the peaches. The sketch also shows three-year-old peach trees in fruit, fine in size and form.



PLATE X.



2420. View east across Bassford's Canon, Laguna Valley, Vaca Valley, and the Sacramento Valley to the Sierras.
 2504. Vacaville Vineyards of A. Montpelier, of San Francisco.
 2505. The Old Pea Family Home—now J. T. Rivera's.
 2497. Hilltop Live Oak, and Mistake.
 2322. Quail Hunting.

2430. View east across Bassford's Canon, Laguna Valley, Vaca Valley, and the Sacramento Valley to the Sierras.
 2503. Date Palms, near Elmira.
 2466. Vacaville Orchards of Col. J. L. Lyons, of Oakland.
 2473. Manzanita.

PLATE X.

From Bassford's Cañon to the Sierras.

WITH this plate the reader passes to a consideration of the southern portions of the Vacaville district. The point of view for the landscape is at an elevation of about 700 feet, on the hill forming the western boundary of a sheltered nook which is called Bassford's cañon, from the name of the family through whose exertions it has become well known for the production of early fruit, especially cherries. The relation between the point of view in this plate and the surrounding country may be seen in Plate XI, in which Bassford's cañon lies just below the point of the overlying sketch on the left. It there appears that high hills rise on the north and west, which ward off cold winds, while the sun has free access over the low hills on the south. This favoring topography led J. M. Bassford, Sr., to select this place for early cherries about twenty years ago. He was a cherry-grower in Napa and found his fruit ripening too late to secure the highest prices. His removal to his present location accomplished the end desired and he and his sons, who have profited greatly by his example, have secured a competence and a name in local and distant markets. We shall refer more particularly to their affairs presently.

In Plate X the view is eastward, out from Bassford's cañon, which is much deeper than it appears from the elevated point of view; across Laguna valley, which will form the special topic in Plate XI; across the lower part of Vaca valley, with the town of Vacaville upon the left, and then the view shows clearly how Vaca valley opens out towards the southeast upon the great Sacramento valley, as has been intimated in connection with previous plates. In the middle distance is the town of Elmira, where the Vaca Valley and Clear Lake Railway taps the main overland line of the Central Pacific.

The railway train shown is *en route* between Elmira and Vacaville. These statements indicate the outlet by which the produce from the whole area of the Vacaville district except Suisun valley reaches market. The fruit train starting from Winters with the fruit from Pleasants' valley and the Putah creek orchards, proceeds to Vacaville to take up the cars laden from the orchards of Vaca and Laguna valleys and thence to Elmira where the cars are forwarded by the trains of the Southern Pacific system and connections to all parts of the country.

From the foreground, with its broad acres of trees marshalled like armies, beyond the busy traffic at Elmira, one looks over the expanse of the Sacramento valley and then upon the background of the picture, the majestic Sierra Nevada, the great eastern wall, from the summit of which eternal snow looks down upon perpetual summer. It is approximately 100 miles from the point of view in the picture to the summits of the Sierra Nevada, but on a clear day they are plainly outlined against the sky.

But we return again to the foreground of the picture. Bassford's cañon heads at some distance to the left of the limits of the view and a small stream flows down. Its course across the orchards is shown by the large native trees which line its banks. Thence it flows eastward across the Laguna valley and empties in the Alamo in Vaca valley. On the side of this tree-bordered brook, just under the hill projecting in the foreground is the residence of J. M. Bassford, Sr. He is a native of New York city who came to this State in early days and lived in Benicia. From 1858 to 1868 he was a prominent horticulturist in Napa county as already stated. When he came to his present location there was a family orchard growing in the cañon, planted in early days, and the early maturing of this fruit gave him a clue to the value of the location in this respect. Mr. Bassford has always placed his chief reliance upon the cherries, which constitute his principal crop. It was his custom for a long time to gather his Solano county cherries and then haul his ladders and other appliances to Napa where he would arrive in time for the ripening of the cherries in his orchard there.

The next place along the creek is Henry A. Bassford's. He has 25 acres of land, of which 18 acres are in cherries and the balance in other fruits, including a number of oranges. Henry Bassford's valley place is described in Plate II. He moves to the valley place about July 1st, after the early fruit is disposed of in the cañon, and remains in the valley until the end of the shipping season in November. He contemplates building a permanent residence on his valley place.

Upon the right side of the foreground and partly concealed from view is the slightly location of George H. Peabody. He has been a resident of the locality since 1882 and has 60 acres, of which 40 are in fruit, chiefly cherries, but including also plums, apricots, peaches, pears and grapes. He has a new residence on a commanding situation. It is shown in the right foreground, but appears depressed somewhat from the bird's-eye point of view. Mr. Peabody is a competitor in the friendly contest for the earliest cherries, and believes that his are just a little ahead of all. This spring (1888) he shipped

two boxes on April 19th (one day later than Robinson Brothers, already mentioned on Plate I) and four boxes April 22d. Mr. Peabody claims that he could have shipped one box on April 17th. J. M. Bassford, Sr., shipped three boxes April 22d. We mention these facts to show how close is the competition between especially early spots in various parts of the Vacaville district. Fuller data on dates of shipment from various parts will be given in the second part of this work.

The group of buildings near the mouth of the cañon, and about 350 acres of land surrounding them, are the property of J. M. Bassford, Jr. He has 30 acres of cherries, 20 of peaches, 10 of pears, 15 of grapes, 10 of prunes, 3 each of apricots and almonds. His orchards extend from well up the cañon, eastward to the Suisun road, which crosses Laguna valley and passes out of sight behind the hills upon the right of the cañon. Mr. Bassford is continually extending his orchard area. His buildings are excellent and his place shows many indications of prosperity. On his place are some interesting old trees. One, a Mahaleb cherry planted in 1857, has a spread of branches 40 feet in diameter and is about 25 feet high—a curious old veteran.

Emerging from Bassford's cañon one finds himself in Laguna valley, which is seen as a central feature in Plate X between the two ranges of hills. The details of this beautiful valley will be discussed in connection with Plate XI. The road which is seen crossing Laguna valley is a part of the highway from Suisun to Vacaville. Upon this road, about midway across the valley is the district school-house. On the right hand side of the road and extending as will be described in Plate XI, is the orchard of Mrs. E. P. Buckingham. The area of lighter shade is her pear orchard and nearer to the foreground are apricots, peaches and cherries, the last being on the land nearest to Bassford's cañon. Beyond Mrs. Buckingham's is J. T. Rivera, who has a fine valley place and a large hillside orchard, as indicated by the green color on the side of the farther range, about in the center of the picture. On this same range, but at a higher elevation and further to the right than shown in this plate, is the point of view from which the photograph for Plate I was taken.

On the left side of the road crossing the valley, and extending from the center of the valley eastward to the base of the hill, is the orchard of John Dickson, whose residence is reached through the avenue of gum-trees which is seen extending out into the orchard.

The east side of this valley and the narrow depression in the hills which connects it with Vaca valley, as shown in the center of the landscape in Plate X, is a locality of peculiar historical interest, because the first white owners of the soil, Vaca and Peña, here established their habitations in 1841. The account of their settlement will be outlined in our historical chapter. Both built commodious adobe houses, and probably chose this location as it was intermediate between their best possessions, the Vaca and Laguna valleys. The old adobe built by Vaca is still standing in its original style in the neck of level land connecting the two valleys. The house built by Peña has been covered in by a frame structure and now constitutes the commodious residence of J. T. Rivera, as shown in the small sketch on this plate, Fig. 2505.

Passing into Vaca valley the direction of sight crosses the Araquipa rancho, and the property of Ex-Senator Parker, both of which are described in Plate I. The town of Vacaville is seen upon the left of the picture. Beyond Vacaville in the direction of Elmira is a rich country, which is now fast developing into an orchard and vineyard area.

There are two roads leading from Vaca valley to Elmira. On the southern road about a mile from Vaca valley is the orchard and vineyard of A. Montpellier, a resident of San Francisco, cashier and manager of the Grangers' Bank. Mr. Montpellier has great delight in horticulture, and though he has very few leisure moments he occupies them in the development of his Vacaville property. He has 75 acres fully planted with apricots, peaches, prunes, pears, figs, table grapes, olives and oranges. He has expended much time and money in securing for trial the very earliest varieties of the different fruits, as well as those of other points of excellence, some of which will be mentioned in another part of this work. Some of his acquisitions promise to be of great value. In the small sketch, Fig. 2504, is given a glimpse of a little part of Mr. Montpellier's place. Beyond the neat little residence of his foreman is one of his vine clad hills, upon the summit of which is a reservoir planted about with trees. On another hilltop he has a handsome summer house, thus placed to catch the refreshing summer breeze which gives the spot a temperature five or six degrees lower than in the fruit ripening vales.

Opposite Mr. Montpellier's is the place of James Marshall, who has 15 acres of apricots, 30 of peaches, 8 of grapes and 7 of prunes, figs, etc. Mr. Marshall has a well-kept place and his trees are yielding well. In 1887 he bought and dried considerable fruit from his neighbors' orchards.

Just before reaching Mr. Montpellier's there is a branch road running directly southward. On one corner of this road is the residence of G. O. Coburn, who has a family orchard of a few acres. Mr. Coburn has done a public service by keeping a meteorological record for a number of years, and furnished it for publication in the *Vacaville Reporter*. South of Mr. Coburn's are the orchards of James B. Barber and George Chase, of the County Treasurer's office in Oakland, and of W. L. Jepson. Further south are farms of Capt. J. B. Chinn and Thomas Mahlborn, both of whom have extensive orchards and vineyards. Mr. Mahlborn's fine residence is near the line of the Central Pacific, about midway between Suisun and Elmira.

Also on the south road from Vacaville to Elmira are the places of A. A. Hyatt, Frank Williams, Rev. H. E. Jewett, Principal of the Hopkins Academy of Oakland, Caleb Wells and A. C. Hawkins. Mr. Hawkins is a native of Kentucky, and has been a resident of the Vacaville district since 1852. He has a large farm, of which the principal produce is wheat and barley, but he has a twelve acre orchard of assorted fruit varieties which are thriving and paying well.

On the northern road from Vacaville to Elmira there are a number of fruit farms, the oldest being those planted by Josiah Allison on the old Allison place, now owned by G. W. Maylone. W. B. Davis also has orchards in good bearing. Luther J. Harbison, who has been a resident since 1876, has about 30 acres in different fruits. His trees are excellent and just coming into full

bearing. His five-acre orchard of Boston nectarines which we saw in bloom in March, 1888, was so handsome as to draw people long distances to gaze upon it. The trees are five years old, having been worked on two-year-old roots. This year's yield will make their fourth crop: the first two crops were of course small, but large for the size of the trees. Mr. Harbison finds that his dried nectarines sell better than dried apricots or peaches, but he does not find profitable sale for the fresh fruit. Just beyond, Edwin Wilson has a fine wheat farm with excellent buildings.

The town of Elmira is an important shipping point, not only for the growing fruit industry tributary to it, but for the great grain product of the region. It has a population of about 500 and the usual facilities for trade. It undoubtedly has a good future as farming becomes more diversified, and the great grain farms are cut up into smaller holdings.

That the vicinity of Elmira can rightly claim alliance with the fruit district of Vacaville is seen by the condition and fruitage of the orchards. Those who like other indications of favoring climate than the ordinary fruits, can find assurance in the view we give of date palms growing on the farm of Sarah Roberts, as shown in Fig. 2503. They have grown from seed of the dried date planted by G. W. Fraser, a former owner of the place, and have attained honorable size and age. The first fruit appeared when the plants were ten years old, but owing to lack of fertilization it does not ripen. The successful growth of the date at Winters (as described in Plate IX) and at Elmira shows that favorable conditions prevail from end to end of the Vacaville District. Mrs. Roberts has been a resident of the district since 1870, and has orange and lemon trees growing finely, besides deciduous fruits.

MINOR VIEWS.

Besides the little sketches to which allusion has been made, Plate X has on its extreme left a view of the residence and part of the orchard on the 20 acre place of Col. J. L. Lyons, a resident of Oakland. The place is eligibly situated just north of Vacaville, where the landscape is cut out by the date palm corner-piece in this plate, and has well-kept trees and vines of popular varieties of fruit.

A FAMILY OF DISTINGUISHED SPORTSMEN.*

The small plate (Fig. 2322) showing a sportsman afield with his string of pointer dogs, is perhaps as characteristic of Bassford's cañon and of the Bassfords generally as any that could be made. The family comes of good, sturdy old American blood, and in New York has for years had representatives who were distinguished by love for legitimate sport of all kinds. Fine horses, cattle and dogs have been common about the Bassford colony of California for many years, and at every opportunity between seasons the gentlemen of the family, without exception, go abroad throughout the wilder portions of the State in search of virgin trout streams, fresh deer ranges, or new quail ground. While possessing in Beecher Bassford perhaps the best non-professional deer hunter in the State, and having several expert fly casters, the prominence

* This interesting sketch has been especially prepared for this work by Mr. H. H. Briggs, field editor of the *Breeder and Sportsman*, of San Francisco, than whom probably no one is better informed on field sports of California or can write of them more ably.

of the family as sportsmen is due more to the extraordinary skill of Henry A. and Frank J. in trap shooting, and to the interest taken by George W., Joseph M., Jr., and Henry A., in breeding and shooting over fine pointers. Beginning with the importation by J. M. Bassford, Sr., of a fine stud dog, some ten years ago, the pointer stock of the State has, mainly through the endeavors of this family, been brought to an excellence which entitles the Pacific Coast to rank with the most favored sections in that regard. Sparing neither means, time, study nor laborious care, their dogs have gone abroad into many hands, and have at all times maintained a high reputation for all the qualities essential to the good field pointer.

The family has been identified with all public enterprises calculated to advance sportsmanship to a higher plane, and particularly with field trials or public competitions, in which field dogs from all parts of the State meet and are judged by actual work on quail, as to their natural qualities and those added peculiarities which come from judicious breaking. In such competitions the Bassfords have invariably been successful. At bench shows their dogs have had honors repeatedly, and it is an indication of the progressive spirit of the family, that as the years pass and competition becomes more keen, the animals of their breeding go on winning uniformly.

At the traps, as before intimated, Henry A. and Frank J. have won for themselves places in the first rank of those who rarely fail in the use of the gun. Using the best and most recently improved arms, studying closely all the conditions which make for or against success and being cast in a strong mould, they very rarely miss returning from a gathering of expert shots bearing the lion's share of the rewards. At the old style of pigeon shooting from plunge traps Henry had but one equal, and that the champion of the coast, Crittenden Robinson. In the recently adopted style, from ground traps at thirty yards rise, however, the great quickness of his younger brother Frank has enabled the latter to rather excel; but anyone who beats either in a fairly long race will be certain he has been to a pigeon match. The brothers have often beaten such men as Mr. Robinson, Dr. Carver and Mr. Maskey, to say nothing of an army of lesser lights.

Living in a section which abounds in feathered game of all sorts, from swans to English snipe, and using the gun almost constantly, it is little wonder that the Bassfords should be good at the sport. Both Joseph M., Jr., and Henry A. have been honored by election to high offices in the California State Sportsmen's Association, and have rendered valuable services to the sportsmen of the State in enforcing the game and fish laws. In their own region their names are synonymous with integrity, regard for the rights of others, and a whole-hearted hospitality.

In the plate Mr. Geo. W. Bassford is shown with "Lemmie B.," in the foreground, "Blossom," "Professor," and "Victor II." The first-named has won much glory at field trials, and has been the constant companion of his master for four or five years. Of unusually strong form and being a keen field dog, he is highly valued. "Blossom," next named, is a very beautiful white and lemon, and at the field trials of the year divided third, beside winning second at the Pacific Kennel Club dog show. "Professor," third in the plate, is a young dog, but has shown such excellence as to justify the belief that he will become the best bred by the Bassfords. The picture was made near a little gulch near Joseph M., Jr.'s house, where a partially domesticated bevy of quail were, and the third of the dogs is shown "on point" having detected the presence of the birds. The others prompted instinctively, are "backing" or acknowledging the "point" established by the dog nearest the quail. There are few more exciting moments than when such work is being done, and it is not hard to understand the enthusiastic love of such sport which can sustain men through years of adhesion.



2469. Laguna Valley from the South.
 2334. Apricot Orchard in bearing, at three years old, at Mrs. Buckingham's.
 2366. Olive Tree at the Peña Homestead—J. T. Rivera.
 2450. Oleander blooming in November—J. W. Gates.
 2312. Ripe Oranges in January—J. W. Gates.
 2362A. Thirty-five year old Pear Tree, bearing 600 lbs. per year, at Mrs. Buckingham's.

PLATE XI.

Laguna Valley—Looking Northward.

THIS plate gives a view of Laguna valley from a point at about 700 feet elevation on the round-topped hill which is its southern boundary. This hill is sometimes called "Volcano Mountain," though, excepting from its rocky surface at certain points and the abundance of mineral springs, the hill does not merit such a significant name. Its location may be seen in Plate XII as seen from Suisun valley and in Plate III from Vaca valley.

The view is lengthwise of Laguna valley. Plate X gives a view across the valley from a station on the western hills just beneath the lowest point of the diamond-shaped figure on the left of Plate XI. These two plates should not only give a good idea of the form and features of Laguna valley, but should clearly define its relations to Vaca valley. Plate XI shows that Vaca and Laguna valleys are parallel for a considerable part of their lengths. The Blue Mountains which at one point have an elevation of 3,000 feet, are upon the left of the landscape in this plate, and form the western boundary of both valleys; the valleys being separated by the low hills, nowhere exceeding 700 feet in height, which are seen on the right of the picture. The openings in the Blue Mountains which may be located on this plate by their profiles, are seen in front in the westward views across Vaca valley. For example, directly in the center of the landscape is the profile of the slope bounding Walker cañon on the south, and Walker cañon is directly opposite the point of view, in the background of Plate II. The next profile beyond is Gates' cañon, and this is shown in the background of the Frontispiece, but Laguna valley does not drain Gates' cañon. From it issues the Alamo creek, and from Walker cañon another creek which crosses the head of Laguna valley, but does not flow into the Alamo until both pass the low hills and reach the Vaca valley. The eastward flow of waters is also shown in the course of the stream which

emerges from Bassford's cañon, crosses Laguna valley as shown in Plate X, and flows thence into Vaca valley. The Ulati flows out from Weldon cañon on the west side of Vaca valley, crosses finally to the east side of the valley and then skirts the eastern hills until it escapes from them and turns eastward through the town of Vacaville. In the northern end of the district, Putah creek, emerging from Putah cañon, breaking through the opposing elevation, flows directly eastward until it sinks on the plain of the Sacramento valley. The courses of all these streams show the general eastward slope which is characteristic of the whole district, and the elevation of the favored fruit locations above the general level of the great valley.

Of the more distant landmarks on Plate XI there may be mentioned Putnam peak, to which frequent allusion has been made in description of other plates. It is the sharp spur directly over the low hills on the right of the picture. The most distant elevation directly beyond Putnam peak, is the north side of Putah cañon, of which nearer views have been given in Plate VII.

For a more specific description of the interesting features of Laguna valley we return now to the foreground of the landscape on Plate XI. First round-topped hills are seen, one of them quite covered with concentric circular markings as though set with plants or terraced. These are the lines marked out by the header, which in cutting its wide swath of ripe grain is driven round and round the hill and leaves its stubble cut into low terraces which the camera has faithfully portrayed. To one familiar with this appearance in nature, its presence in this plate will testify to the truth of the artist to the details of the photograph.

The nearest orchard to the point of view is that on the eastern slope of the hill, of which a vista is seen between the two small pictures in the lower right-hand corner. This is the residence of D. K. Swim, a native of New Brunswick, who chose this district in 1883, after considerable observation and experience in other parts of California. His place is about 2 miles in a direct line southwesterly from the town of Vacaville. Mr. Swim has 215 acres, of which about 45 acres are in orchard and vineyard. He has 8 acres of peaches, 15 of pears, 10 of table grapes, and the balance in plums, prunes, nectarines, almonds, apples and cherries. His farming outside of fruit includes crops of grain and hay and the production of live-stock.

The landscape shows that the southern half of the valley is not yet devoted to horticulture. It is used for pasture or farmed for grain and is owned in most part by the descendants of Juan Felipe Peña, one of the two original settlers. The place surrounded by grain fields to the left of the center of the picture is that of Juan Peña, who has 314 acres, of which 25 acres are in orchard and vineyard, 32 acres vegetable ground and the balance used in general farming. Toward the left hand and situated at a slight elevation, is the new residence of José Demetrio Peña, who has 386 acres, of which 16 acres are planted in trees and vines, and the balance given to crops of wheat, barley, hay and corn, with land used for pasturage. Mr. Peña's residence occupies a commanding site, his dooryard sloping eastward to the Suisun road, which skirts the western edge of Laguna valley and turns westward over

the hills soon after passing his place. From this point in early times all the produce of the Vacaville district passed over the hills into the Suisun valley for shipment by rail or schooner from Suisun to San Francisco.

On the right of the landscape is seen the little sheet of water from which the valley takes its name—Laguna, which is Spanish for lagoon or lake. The surplus rainfall of the valley collects in this lake; and in winter its area is considerable, but in summer much contracted. The sloping shores give late grass for stock; and its waters are wholesome and a favorite resort for game birds.

Just beyond the lagoon and near the low hills on the right is the residence of J. T. Rivera, whose wife is a daughter of Juan Felipe Peña, already mentioned as the pioneer in this region. The Riveras have a fine property of extended area including 500 acres of valley land and the balance hill land reaching beyond the limits of the landscape on the right. They have 80 acres of orchard and will plant more; also 300 acres in grain this year. Their residence has already been described in Fig. 2505 on Plate X. On the hill near the residence there is a large orchard which can be discerned by its green color in Plate XI. In the dooryard are a number of fine olive trees, the largest we remember seeing in this vicinity. They are very thrifty and handsome trees, as is shown in Fig. 2506. The mention of the lagoon may lead the reader to suppose that the mysterious object entering the circle of the olive trees is the prow of a boat. It is in fact a part of another sort of a craft—a ship of the grainfield—the header wagon, of which one corner entered the field and the too truthful camera seized it. Let it stand there then, as stand it must, as another indication of the departing grain industry which is flying the scene as the fruit-bearing tree advances.

We come now to the beginning of the greatest horticultural achievements in Laguna valley. A little beyond the center of the picture the wearisome glare of the stubble field and sere pasture land gives place to the delightful green of orchard and vineyard expanses. This great and recent change in the central portion of Laguna valley is quite as interesting and creditable in its agency as in its accomplishment. It is the most notable example of woman's work in California fruit growing, and it is the more interesting because its executor was not left with the property on her hands and thus forced into its manipulation, but taking her own cash capital she moved forward into horticulture with due deliberation, believing that she could thus build up a pleasant and profitable business enterprise. There are in California horticulture other instances of successful work by women among those who have deliberately taken up the business, but we believe the undertaking in Laguna valley is by far the greatest, in view of the capital invested and the magnitude of the operations undertaken.

In 1884 Mrs. Elise P. Buckingham, a lady of culture, social position and possessed of abundant means, purchased of José Demetrio Peña his residence and about 200 acres of land centrally located in Laguna valley, for the purpose of planting an extensive orchard, and christened the estate "Lagunita Rancho." She chose the Vacaville district because of its exceptionally good climate for fruit growing and she invested her means in the enter-

prise because she found no business which returned so great interest for the capital invested. With her keen insight and accuracy in drawing conclusions, she found enough evidence on the old Peña place to declare its adaptation to her purposes. Around the old residence there were vines planted in 1852, which were still fruiting at the rate of $8\frac{1}{2}$ tons to the acre, and pear, English walnut and fig trees planted in 1853, which had attained colossal size and yielded immense crops. The old fig trees almost embower the old residence, which Mrs. Buckingham has transformed into a residence of ample dimensions and filled with articles of taste and beauty. In fact so extended is the spread of these grand old fig trees that they furnish abundant space beneath their branches on the side farthest from the dwelling for the erection of a shelter of white canvas under which fruit packing and fruit canning is done, filling the vicinity with frugiferous perfumes during the busy season. The old pear trees have also attained great size, as can be inferred from the picture (Fig. 2362, A) which portrays one of them which is said to bear 600 pounds of fruit annually. At the time the view was taken the tree was such a mass of "ambrosial fruit of vegetable gold" that the foliage was almost concealed from sight. But Mrs. Buckingham was not content to linger in the shade of these historic trees; their lessons to her were quickly learned. The vast stretches of stubble were deeply plowed almost from side to side of the valley and fully planted with young trees. She attempted at first to conduct her operations through a professional superintendent, but soon found him unsuited to her idea of efficiency and resolved to undertake herself the practical management of her enterprise. With her son, recently from college, she proceeded upon this course and soon demonstrated the fact that a woman and a young college graduate, two articles which, according to common prejudice are of very little business account, could really plan and carry on a productive enterprise involving large investment of capital and management of minute technical and practical details, so as to merit the plaudit "well-done," from our most experienced fruit growers. So well did the first year's plantings grow and so fully convinced did Mrs. Buckingham become of the wisdom of her course, that she soon enlarged her borders, buying land adjacent and more remote until in March, 1888, she reports ownership of 1,330 acres of land, of which 375 acres were in orchard and vineyard. This includes the Araquipa Rancho in Vaca valley, of which she only intended to retain a part for herself, and the disposition of which in April, 1888, has been described in connection with Plate I.

Though Mrs. Buckingham has only been a fruit grower since the spring of 1884, she has already gathered rewards financial and otherwise. Her apricot and peach orchards planted in 1884, yielded in the summer of 1887 a net profit of \$76.20 per acre above all expenses of cultivation, handling the fruit, commissions, etc. Such a return from trees only three years planted is certainly encouraging. A glimpse at this apricot orchard is given in Fig. 2234, on Plate XI, in which the shapeliness and size and fruition of the trees, and the clean culture of the orchard, speak more emphatically of practical horticultural skill than any number of adjectives we could employ.

Mrs. Buckingham is conducting her enterprise in a business-like way, that is, to succeed and to make money, but she enjoys companionship with nature and finds pure delight in the study of her trees and vines and in ministering to their growth and vigor. That trees thus treated make generous returns is a gratifying incident it is true. But in addition to the joy of the work and the satisfaction of its reward, Mrs. Buckingham carries a philanthropic motive in her undertaking. She knows how women tire sometimes of the exactions of society or grow restless in the bonds of conventionality. She knows also that upon many women devolves the duty of investing money or employing energy so that returns may be had for those dependent upon them, and how often the usual investments prove unremunerative if not delusive, and how crowded are the ranks of vocations conventionally considered woman's work. Herein we have a key to some of the thoughts which Mrs. Buckingham cherishes; to lead women to recognize their own ability and strength, to lead them to action rather than to restlessness or repining, to demonstrate that a woman can succeed in horticulture even when the affair is extended and complex and great interests involved, to add perchance a single scintillation to the light which California throws forth to cheer and welcome those who have force enough to do and dare for the promotion of their own welfare.

As shown in the description of Plate X, Mrs. Buckingham's Lagunita property extends northward to the Vacaville road which crosses Laguna valley. Beyond this road the orchards of John Dickson reach nearly across the valley. He has upwards of 100 acres in fruit, and in 1885 refused \$500 per acre for 60 acres planted with young trees. The land cost him \$63 per acre in 1878. His residence appears at the right end of the avenue of large trees which seem to extend to the right from the low hillside. On this hillside at the left and beyond Mr. Dickson's is the place of W. E. Lawrence. Next also on the left are the very thrifty and productive orchards of G. M. Gates, who has been for a long time a resident of the locality and was formerly engaged in wheat farming and live-stock growing. On the right side of the valley are the orchard and vineyard of B. F. Christopher.

At the mouth of Walker cañon, which has already been located in this description, lies the place of W. P. Buckingham, who purchased 123 acres in 1885 and has 105 acres in fruit, including 55 acres of table grapes, 15 acres of peaches, 9 of Bartlett pears, 15 of plums and prunes, 7 of cherries and 5 of apricots. His experience warrants his choice of the Vacaville district; and he has furnished interesting data which more properly belongs in Part II of this work.

MINOR VIEWS.

The upper left-hand view, Fig. 2450, shows the commodious residence of J. W. Gates, in Gates' cañon, which is at the farther end of Laguna valley, but which is better shown in the Frontispiece. The residence has an interesting environment of shrubs and trees. Perhaps the most conspicuous object is the oleander in bloom, November 3, 1887, when the photograph was taken. The oleanders generally bloom throughout the valley

in the Thanksgiving month and add much beauty to the dooryards. Our eastern readers who cherish oleanders in tubs and cellars would enjoy the sight of the plant in the open air with its dense bloom as though to welcome the California winter. The immense tree which towers far above the house on the right is another tender tree which enjoys a mild climate. It is the pepper tree (*Schinus molle*) a favorite tree in California, and in the southern part of the State is perhaps the tree most planted of any for ornament and shade. Its beautiful form, its weeping pinnate foliage and its grape-like clusters of red berries are all elements of its popularity. Just at the right of the engraving is the first of a group of orange trees which thrive and bear well. One of these trees, a seven-year-old Mediterranean sweet, is shown with its load of fruit, in Fig. 2512.

Allusion has already been made to the other small views on this plate.





316r. First Suisun Home of A. T. Hatch.
343r. Residence on the Pierce Estate.

2300r. Present Home of A. T. Hatch, and Suisun Valley Southwest.
2347r. View East across Suisun Valley to the Sierras.

2355r. Fruit Drying at A. T. Hatch's.
344r. Fifteen year old Fig Tree at A. T. Hatch's.

PLATE XII.

View of Suisun Valley, Looking East

CROSSING the hills which form the southern boundary of Laguna valley by the old road which passes over them a short distance from the residence of Mr. Peña, as shown in the extreme left of Plate XI, one comes into Suisun valley. Between the two valleys are two or three miles of low hills, which are chiefly used for grain and pasture, and among which are the well-known Tolenas mineral springs. Crossing the upper part of Suisun valley to the ridge which forms its western boundary, and then turning the eyes toward the east, the observer will obtain the general view shown in the landscape on Plate XII. Of the main features of this view it may be said that the hills on the extreme left are a part of the range crossed in coming from Laguna valley; the distant plain to the right of these hills is the Sacramento valley, while on the extreme right of the horizon line lie the famous Suisun marshes, vast areas of low land traversed by many sloughs leading to the broad sheet of water known as Suisun bay, into which the two great rivers, the Sacramento and San Joaquin, pour the drainage of the great interior valleys of California. These marshes are called *tule* lands from the Spanish name of the round rush (*Scirpus lacustris*), which is the chief vegetation upon them. They afford much pasturage for stock during the dry season of the year, and during the winter are the abode of myriads of water-fowl.

In the distance near the right of the landscape is Suisun city, a town of considerable local importance, situated at the head of navigation on Suisun slough, and ten miles in a direct line from Suisun bay. In the earlier history of the Vacaville district, Suisun was the shipping-point for the whole district; early fruits and vegetables, as well as the grain and other crops being hauled, even from the banks of Putah creek, for shipment by the daily steamers or the fleet of small sailing craft which plied between Suisun and San Francisco. The railroads have greatly reduced the water traffic of Suisun. Twenty years ago half the products of the county passed over its wharves.

Just to the left of Suisun in the landscape and less than a mile north of it is the town of Fairfield, the county seat of Solano county. It is a neat little place and is commercially a suburb of Suisun. The county buildings are respectable but not elaborate nor imposing. The land around Suisun and Fairfield is chiefly occupied by prosperous grain and stock farms. The fruit lands lie higher up the valley and nearer the hills from which the landscape view was taken. Just how great an area of Suisun valley will prove well adapted to fruit is not yet determined, but is in a fair way of demonstration, for the planting of orchards is each year extending southward. It has been estimated that there are in Suisun valley about 3,000 acres of bearing orchards owned by about 50 proprietors. As a rule these orchards are small, each proprietor having only a few acres. The following is a list of the principal orchards and vineyards, all planted within the past ten years: McWilliams, 40 acres; Williams, 100; Lambert, 30; Armstrong, 30; Miles, 20; Reams, 20; Clayton, 25; Campbell, 40; McNulty, 60; the Bassfords, 40; the Wolfskills, 30; Burkmeister, 70; Hickmot, 40; Haile, 40; the Scarletts, 40; Sweitzer, 15; Bronson, 15; Tisdale, 20; McEwen & Morrison, 25; Drake, 30; Blake, 75; the Pierce estate, 80; Miss Monroe, 20; Baldwin, 75; Abernathie, 40; Sheldon, 40; Stewart, 60; Mrs. Chadbourne, 120; Brian, 10; the Davisons, 140; Honeywell, 20; the Harper estate, 75; Barnes, 10; Russell, 14; Wilson, 20; Pangborn, 5; Danielson, 60; Mrs. Berry, 60; Collins, 30; Robbins, 160; Keyms, 40; the Waterman estate, 70; Shelly, 10; Martin, 50; Mangels, 20; Hale, 10; and A. T. Hatch, 813.

THE ORCHARD OF A. T. HATCH.

Covering the whole foreground of the landscape on Plate XII, extending to the farthest limit of the green color on the left side of the buildings which are inclosed in a clump of trees in the center of the picture, and reaching to the left far beyond the limits of the picture, is the orchard of A. T. Hatch, one of the largest and most notable in California and perhaps in the world. It comprises 813 acres of choice valley land with deep and rich alluvial soil, and every acre except such space as is absolutely required for buildings and yards is planted with fruit trees. The orchard includes 200 acres of Bartlett pears, 120 acres of peaches, 210 acres of almonds, 100 acres of plums and prunes, 70 acres of apricots, 40 acres of cherries, 10 acres of nectarines and a number of acres of other fruits. The development of this magnificent horticultural property is interesting and significant in many ways. It is illustrative of the way in which many enterprises are built up in this favoring land, where the architect has the discernment to perceive the opportunity, the confidence and courage to assume the risks, and at the same time the breadth of mind to grasp at once the main idea and the details by which desired results are to be attained. Such traits of mind are characteristic of Mr. Hatch. His confidence in the future of the fruit interest of California and his courage in putting forth efforts which the timid would shrink from are proverbial. He is a typical Californian of the more progressive sort, and for this reason the incidents of his life and of his horticultural experience, representing as they do the struggles and successes

of many Californians, become of general interest. The writer's personal acquaintance with Mr. Hatch began in 1876, and for the story of his life previous to that time indebtedness is acknowledged to a sketch prepared by Dr. Latham, from which the following is an abridged quotation :*

A. T. Hatch was born in the town of Elkhart, Indiana, in 1837. His parents were among the early settlers of Indiana. When he was six years old his parents moved to Michigan. There they all lived till 1848, when the son returned to Indiana, and for four years worked for his board and clothes, and swept the school-house and built fires for his tuition. With this amount of schooling, with robust health, and an ambition and determination to make his way in the world, young Hatch started in life for himself. Boy as he was, two or three years of faithful service placed him in charge of a mill and its business, in a small and isolated town in Indiana. His success there only gave him a desire to try his powers in a larger field, and he therefore went to Cincinnati, O. There he obtained employment successively in the dry-goods and then in the hardware business. A year or two, however, showed him the long and weary rounds of the ladder which he would have to climb in order to reach fortune and independence in a great city where labor was so plenty and so cheap. He had heard and read of the resources and advantages of the land beyond the continental divide, and he was eager to join those who were developing its possibilities. He found his way to Council Bluffs, Ia., where he made arrangements to cross the continent with a man who was bringing a flock of sheep from that point to California. For his food and for the hauling of his personal effects he was to drive sheep through the day, cook for the whole party and stand guard every third night. Considering that he was to walk every rod of this weary way, it was paying dearly for his board and the carrying of his blankets.

In the month of May, 1857, the tiresome tramp of more than 2,000 miles was commenced. Arriving in the mining region of California, employment was immediately sought for. It was the season of low water, and mining was slack. Upon inquiring for work he was told that the supply of water would not warrant paying regular wages, and rather than be idle half wages were accepted. In 1858 he worked for a miner on Feather river, and at last bought an interest in the mine on the "Pay-as-you-make-it" plan. He paid for this, and bought another interest in the same mine and worked there mining for two seasons.

In the fall of 1860 he sold out his interests and returned East, where he was married. In the spring of 1861, with his bride, he returned and found work on a ranch in Colusa county chopping cordwood. After a time he bought the place on credit, and paid for it from the crops which his hard labor produced, only to find, at the end of a lawsuit, that it was "grant land," and that another party held the better title. Gracefully accepting the inevitable, in 1863, almost empty-handed, he struck out for the Reese River mines, where he worked for miner's wages, prospected, discovered mines, and worked them till in 1871 he had accumulated \$11,000, which, to him, seemed to be an independent fortune. With this sum he thought he could return to California, buy land, and sit in the shade and see his hired laborers work the soil, and have an ample income for his family.

He bought his land in Suisun valley, and, rich as it has proved to be, he found that in order to make a living at grain-raising he must quit the shade-tree, pull off his coat, and take hold of the plow himself. At the end of the year he found that he had worked just as hard as when he labored in the

* *Record-Union*, of Sacramento, Jan. 28, 1888.

mines for wages, and that he had no more money in bank than then. He began to doubt whether \$11,000 invested in land devoted to grain-growing was such a great fortune after all. Upon the place which he had bought there were an old family orchard and a vineyard. In the orchard there were three Bartlett pear trees of bearing age, which had annually a large crop of fruit, that was in demand at good prices. He realized as much as \$75 one year from the crop of these trees. This was a revelation to the new farmer, for these three trees, with small care and labor, had made a greater net return than the same number of acres of land in wheat would have done. He went to planting more trees, much against the advice of his neighbors, who could see no market for fruit beyond the small amount consumed at home. He was not able financially to plant on a large scale, and it was not until 1875 that he had planted all of the 120 acres of fruit land of his original purchase.

In 1876, then, Mr. Hatch had his farm all planted with fruit trees and for the following five years he planted no more. He gave close attention to his growing trees, in fact made a study of them and gained light from all available sources. He participated in the organization of the State Horticultural Society in 1879, and has been its vice-president since that date. He has been an earnest and generous promoter of all agencies which seemed to him calculated to advance the interests of California fruit-growers.

When his earlier plantations came into bearing, they gave him assurance that he was on the right track and at the same time the means for extending his operations. In 1882 he added the Ellsworth farm of 217 acres. In 1885 he absorbed the Turner farm of 237 acres, and the same year he also purchased the Sweitzer tract of 80 acres. In 1886 he made the additional purchase of the Peabody farm of 127 acres. As fast as these tracts were secured they were planted with fruit trees, and the farm buildings were used to house the men and animals required in the orchard work. Several of these building sites are shown to the left of the center in the picture. Mr. Hatch's residence is at the extreme left in the clump of large trees which seems to be at the base of the hills, though really a considerable distance from them. The residence site and a view across the orchard, looking toward the southwest, are given in the small sketch Fig. 2200.

The tracts of land named above are all contiguous, forming one of the finest bodies of land in the State; and the orchard, as well as being the largest in the State, is one of the best kept and in the highest state of cultivation. The trees range from one to ten years of age. Last year, about two-thirds of them were in bearing, but as it was the first year for many of them, the yield was not large. The gross receipts amounted to about \$100,000. The amount will be largely increased from year to year, until all the young trees come into bearing. To take care of this immense orchard the labor of sixty men is required during the winter season, and 300 men are employed during the picking season. The establishment is directly in charge of Geo. V. Reed, an experienced horticulturist, whom Mr. Hatch finds a very efficient manager.

During the last two years Mr. Hatch has made large plantings in Alameda, San Joaquin, Contra Costa, Placer and Butte counties, and these with his home place in Solano county make him owner of 1,450 acres of orchard.

THE HATCH SEEDLING ALMONDS.

Perhaps Mr. Hatch's method of grasping an idea and pursuing it until it brings him success can be best illustrated by his experience in almond growing. Ten years ago most people were disposed to consider the almond too uncertain a bearer to be profitable, and tens of thousands of trees were worked over into plums or prunes. It was thought that only in very exceptional locations would the almond be profitable. Mr. Hatch early conceived the idea that the trouble lay in the variety—the Languedoc, which was the one generally planted. The process by which he secured the seedlings which are now famous as the “Hatch Almonds,” can best be given in his own words:

In the spring of 1872 I planted 300 Languedoc almond trees in Suisun valley. They grew splendidly, and in their fourth year yielded a net return of \$187 per acre. They were planted 16 feet apart. In the mean time, I had planted 600 more of the same variety, 16 feet apart, in similar soil—a sandy loam—and 900 in clayey soil, 20 feet apart. All planted in the lighter soil grew finely, but the returns were irregular and unsatisfactory. Sometimes there would be a light crop, sometimes scarcely any.

In 1878 I planted 2,500 more seedlings, 20 feet apart, intending to find the best-bearing variety of almonds I could and bud the seedlings with them. At last I found some trees on Mr. McCoy's place, a few miles east of Suisun, that were very prolific. The nuts were very small and expensive to hull, but were, notwithstanding this, more profitable than those which bore very light crops. I budded my seedlings from these trees, with the exception of 300, there not being sufficient buds for all. That same season some of these 300 seedlings, which had not been budded, bore some fruit. None of them had nuts of good quality, some being very poor, while most of them had nothing. They were, however, left for another year, to see what they would produce, when others of them bore fine varieties, which, after testing for seven years, have proved to be not only of extra quality, bringing top prices in the market, but also very prolific and hulling very easily and cheaply. The seedlings which produced these fine almonds were from a seedling bitter almond tree.

The new varieties, that are worthy of all praise, are the “I X I,” “Ne Plus Ultra,” “Nonpareil” and “El Supremo.” I am so well pleased with these trees that I have now 203 acres planted with them. I know of nothing more profitable that I could plant in the ground than a good variety of almond trees such as these are.

Large collections of these almonds have been exhibited at different fairs, including the New Orleans Exposition, where a premium was awarded for them. At the Citrus Fair in Sacramento, in 1886, Mr. Hatch showed 192 varieties. Of the vast numbers of distinct varieties secured, the four named above have been selected for propagation. Some of their points of excellence can be inferred from the fact that besides being regular-fruited varieties the nuts have qualities which find for them ready sale at large prices. Mr. Hatch has sold his seedlings in Chicago for 18 cents per pound, and the Languedoc for 8 to 12½ cents per pound. In making careful tests of the weight of the kernels as compared with the gross pound of the nuts of several kinds he reached this result: Imported Tarragona, 6 1-5 oz. of kernels; California Languedoc, 7½ oz.; Hatch's Nonpareil, 11 oz.; Hatch's El Supremo, 13 oz. These facts must be considered in connection with the regular and heavy bearing of the last-named sorts.

In addition to building up his own property, Mr. Hatch always finds time for important public services. He first suggested in the State Horticultural Society the discussion which resulted in the organization of the California Fruit Union, which he served two years as president—declining reëlection in 1888. His faith in California as a field for enterprise and the need of drawing hither a larger population to furnish the workers now imperatively demanded by our fruit growers, induced Mr. Hatch to take a leading part in the organization of the State Board of Trade in 1887, of which he accepted the presidency. Its object is to make California better known, and thus to attract desirable immigration.

ADJACENT FARMS.

Although Mr. Hatch has been much rallied by his friends with having secured "all the land that joins him" in Suisun valley, there are other fine fruit farms adjacent to his estate, some of which are included in the landscape on Plate XII. At the extreme right of the picture are seen the buildings and part of the orchard of Mrs. R. A. Chadbourne, who has 120 acres of rich loamy soil planted as follows: 1,500 cherry trees, 2,000 apricot, 2,400 plum, 1,200 peach, 3,000 prune, 2,000 Bartlett pears, 600 Winter Nelis pears and some other varieties. Mrs. Chadbourne manages her business with great care and system; her orchard is a model of good cultivation and is very profitable.

Another neighbor of Mr. Hatch on the south is L. S. B. Abernathie, whose residence is in the clump of trees directly in the center of the picture. Mr. Abernathie is also an almond-grower and still clings to his orchard of 20 acres of fine Languedoc trees, which he reports have yielded him \$150 per acre for the last ten years. Mr. Abernathie's place contains also a considerable acreage of other fruits and is a fine piece of property.

Across the road which forms Mr. Hatch's eastern boundary is the farm of J. H. Bauman, who has a fine residence and a considerable area of fruit trees. He is a pioneer of the valley. Beyond Mr. Bauman's is the residence of G. P. Plaisted, who mingles a real-estate business with his horticulture. Both these places are seen just in front of the hills on the left of the landscape.

MINOR VIEWS.

A Rose-embowered Cottage.—*Fig. 316 T.*—In view of what we have said of the humble beginning of Mr. Hatch in Suisun valley, it is proper to give a view of his first home; and it is seen nearly buried in a large rose bush in the sketch. Mr. Hatch has three or four houses better than this one now; but memory lingers with interest over this little cottage, and it will probably always remain a cherished feature of the place.

The Pierce Mansion.—*Fig. 343 T.*—The handsome mansion erected by the late L. T. Pierce will serve as an exponent of the more pretentious structures of the valley. Mr. Pierce was an early settler in the valley, and acquired wealth by his grain and stock farming in earlier years.

Benefits of Cultivation.—*Fig. 327 T.*—The life and vigor of the fruit tree in California depends upon thorough and clean tillage, which conserves moisture

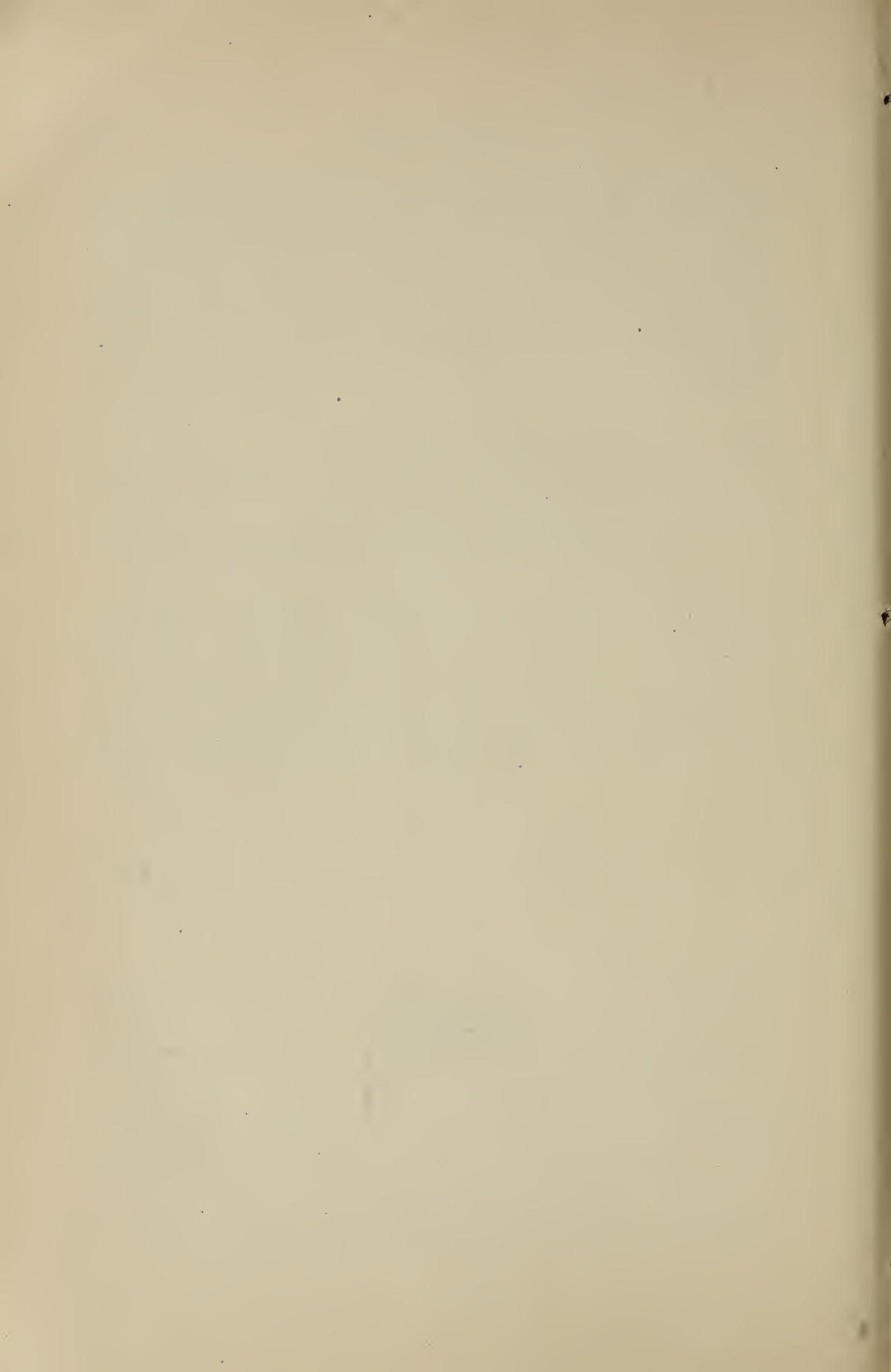
by preventing evaporation and cutting off weeds which would rob the trees of their sustenance. A most striking example of this truth is shown in the sketch. On the left are some young peach trees belonging to Mr. Hatch, which enjoyed his system of perfect cultivation; and on the right the land was planted at the same time by a neighbor, but the trees were neglected. It will be seen that many have died and others are in a forlorn state. Since the picture was taken Mr. Hatch has bought the neglected ground and replanted it, so that this frightful example of poor horticulture now exists only on the negative of the photographer.

A Grand Fig Tree.—*Fig. 314 T.*—We have given many pictures and notes on the fine fig-trees of other parts of the Vacaville district. This sketch shows one in Suisun valley planted by Mr. Hatch in 1871, at about the time he was hoping to spend the rest of his life sitting in the shade and seeing wheat grow. It is an exceedingly beautiful specimen of one of our grandest orchard trees, and in its luxuriant growth from the barren and useless twig of '71 to the magnificent and fruitful tree of '88, it stands as a fitting emblem of the progress of its owner during the same years. May both long continue.

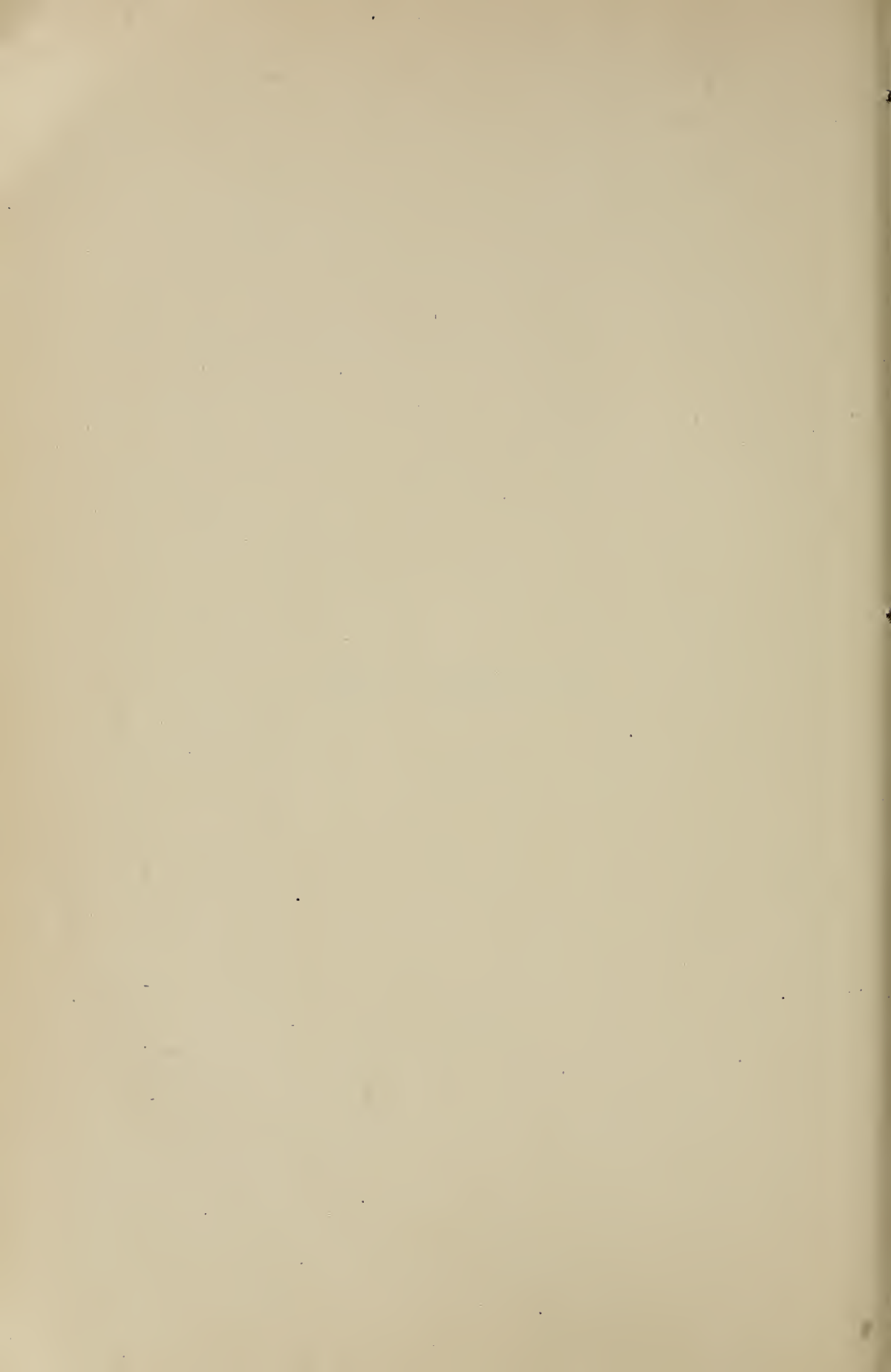
Fruit Drying.—*Fig. 2255.*—Mr. Hatch markets a large part of his fruit crop in dried form, and he has an army of pickers and cutters at work. The sketch shows the apricots spread out on trays, several acres at a time—the method being the same as described in connection with preceding plates.

Valley View.—*Fig. 2200.*—This sketch has already been alluded to. It shows in the foreground the residence of Mr. Hatch nearly hidden by the trees, and his large barn near by. Beyond, the view is toward the southwest, looking in the direction of San Francisco, which is 40 miles distant over the hills and the waters of the bay.





PART II.



CHAPTER I.

HISTORICAL.

THE aboriginal population of the Vacaville district was composed chiefly of Digger Indians and grizzly bears; and, to the date of their entrance, history runneth not. The disappearance of the former is nearly as obscure as its origin, but tradition has it that their ranks were decimated by disease and by the inroads of Mexican soldiery; and the remnant was carried to the old mission establishment at Sonoma for duty and civilization. Certain it is that the first white settlers who came to the district found only the grizzlies to contest their rights of possession as conveyed by Mexican grants. It is said that the nearest Indian rancherias were in Capay valley twenty-five miles away.

Nearly at the same time the owners of these grants settled in the northern and southern ends of the district: the pioneer at the north an American, at the south two families of Spanish descent, owning the grant jointly.

On the 15th of August, 1841, there came into Laguna valley, with their large families and a good outfit of animals and household effects, Juan Felipe Peña and Juan Manuel Vaca. They left New Mexico in 1840, proceeded to Los Angeles, thence up the coast and reached their future home by way of Sonoma mission. They found their newly-acquired domain covered with wild oats so high that they could be tied over the backs of the horses, and growing so tall and dense that one could only get a very limited view over the valley unless he mounted a hillside; and this was the common practice when looking for herds of cattle or horses which had gone astray in the valley. Soon after establishing their families in the adobe houses of which mention is made in Plate X, the new settlers went for more live-stock, securing a good band of mares and stallions and cattle. Vaca and Peña held their estate five years before Americans came to their part of the district. They found the country all they expected—wonderfully prolific in the growth of stock feed, well watered, perfect in climate; and their wealth, as measured by horses and cattle, increased rapidly. Their grant was named Los Putos. It covered the

whole of Vaca and Laguna valleys and the hills surrounding them, and extended for a considerable distance out upon the Sacramento plain, containing 44,380 acres of land. The original grantees of this land have passed away; but some of their descendants still reside in the district, the representatives of the Peña family still owning important properties.

In 1842, one year later than the settlement of Vaca and Peña, John R. Wolfskill, an American, born in Kentucky and raised in Missouri, secured a grant named "Rio Los Putos," located on both sides of Putah creek, and including the country now tributary to the town of Winters, or the northern portion of the Vacaville district. Mr. Wolfskill arrived in Los Angeles February 14, 1838; and, not succeeding as he wished, he resolved to strike out for himself into the little-known region northward of San Francisco bay. In October, 1842, he reached Putah creek, making the journey from Yount's, in Napa county, by crossing the mountains to Suisun valley, and thence northward through the present site of Vacaville to the land he had chosen. He found the country an expanse of solitude without a tenant save the wild beasts, no horned stock even to consume the wealth of dry feed which remained of the previous summer's growth, except the ninety head which he drove before him. His intention was to follow live-stock husbandry, which seemed then the only industry the country favored. Mr. Wolfskill brought to this lonely life the wisdom in hunter's craft gained by long experience in the wilds of Missouri. It is recorded that he passed the first night on his new domain high up in the fork of a tree to escape the formidable grizzly, and at dawn earned his breakfast with his gun. Soon, however, he succeeded in building a cabin, choosing the site of his habitation on the south bank of Putah creek near where his brother's residence was afterwards constructed. For a number of years Mr. Wolfskill lived here practically alone, and obliged by his growing interests to constantly guard them from encroachment. When solitude pressed beyond endurance he rode over to Sutter's Fort, the present site of Sacramento, a distance of thirty miles, returning before nightfall to his post of duty. An exceptional excursion took him over the mountains westward to Yount's in Napa county; but this could seldom be indulged in because it enforced absence over night. The travelers he met most often on his rides were grizzly bears, of which he dispatched five or six at one riding. The grizzlies usually escaped if they had sufficient warning; but riding through the tall oats one came upon them suddenly, and then they assumed the offensive and had to be met effectively. Excursions were always safer on horseback, also, because of the wild cattle which had no respect for a pedestrian. The incidents of Mr. Wolfskill's early years on his grant would make a volume full of interest. As years progressed, however, he had more help and companionship. American trappers and settlers visited him. The Indians came in and served him well, and he had no trouble with them. Wandering Mexicans entered into his service; and as the gold era approached Americans became abundant.

Mr. Wolfskill's tastes were horticultural, though he did not find much chance to gratify them during the first decade of his occupation. He had, however, a small vineyard of Mission grapes planted in 1842. When the

population increased with the coming of the gold-seekers and markets opened for fruit, he was one of the first to prepare to supply them. Mention has already been made in connection with Plate IX of his fig grove planted in 1851. At the same time he planted Mexican apricots, seedling peaches, pomegranates and pears. The next year he planted peach pits from Missouri; and some of the trees are still in bearing, one, growing a nice looking cling peach, being still made use of. He planted almonds in 1853. Returns from these early plantings were large and came quickly. To get the fruit to market, however, a long haul was necessary to reach Sacramento, and two Concord wagons were ordered from the East. They came around the Horn in 1854 and cost \$1,300; but the first load of peaches carried on them sold for \$625 and thus almost paid for one of the wagons. In the same year 120 pounds of Mexican apricots brought \$120 from the store of George Hughes in San Francisco; and in 1857, when these apricot trees were six years old, the crop of 2,000 pounds from six trees sold in Sacramento at 75 cents per pound. But space will not allow reference in detail to these interesting incidents. At first Mr. Wolfskill adopted the common notion of the time, that fruit trees must be irrigated in California, and he put in a pump of large capacity for raising water from the Putah to his distributing reservoir. After a few years the use of water was found to be unnecessary, and the pump was taken higher up the creek where Mr. Wolfskill's brother Milton and B. R. Sackett indulged in irrigation for three years, and then abandoned the practice as not worth while—the pump being finally sold for old iron because nobody had any use for it.

John R. Wolfskill is to be credited with being the pioneer fruit planter of the Vacaville district and the first commercial orchardist. He was so by taste as well as for its rewards. He always thought much more of vines and trees than of cattle; and he is still enjoying his old age in communion with his cherished plants, as has been noted in the description of Plate IX.

LATER ARRIVALS IN THE DISTRICT.

For about five years Messrs. Vaca and Peña occupied Vaca valley without intrusion. In 1846 Patrick Lyon arrived, and obtained a parcel of land in return for constructing the adobe houses between Laguna and Vaca valleys, to which allusion is made in Plate X. In the same year John Patton, J. P. Long, Willis Long and Clay Long came into the valley and began stock-raising. Two or three years later J. H., W. B. and Gerard Long and J. L. Wycoff arrived, and after that others, until in 1852 there was quite an influx of settlers, and the valley became thickly settled, for a stock region. It was in 1852, also, that the town of Vacaville began its formal existence, though the desirability of its site was long before discerned; in fact, Vaca, the grantee, had his residence for a number of years after his entrance to the region on land now occupied by the Vacaville college. Buildings on the site were also made by Americans in 1850, but it took a year or two more to obtain title from Vaca and lay out the town.

In the northern part of the district Pleasants' valley was Government land; and its first settlers were J. M. Pleasants and his son, as mentioned in the

description of Plate IX. Next came M. R. Miller, who located the Pioneer ranch in 1852, and others who accompanied him. B. R. Sackett located at the mouth of Putah cañon.

Space will not permit detailed allusion to those who followed the pioneers. Many of them have grown up with the district from the primitive grazing, through the higher branch of grain-growing, to the highest of all agricultural arts, the production of luscious and beautiful fruit, and still live to affirm the wisdom of their early choice of the Vacaville district for settlement.

THE UPRISING OF THE EARLY VEGETABLE INTEREST.

The fame of the Vacaville district has advanced in two lines: The first is the production of early fruit and the second that of early vegetables. We have traced the former to its source, and we are fortunate in having the record of the second in the words of its pioneer, Mr. Ansel W. Putnam, who is now living on the historic Massachusetts farm of his distinguished ancestor, "Old Put," of Revolutionary fame:

Market Gardening in Vacaville Township.—In 1843, Gen. Vallejo obtained from the Mexican government a title to the Suscol ranch, in what is now Napa county. William Neely Thompson, a lumber-dealer in San Francisco, through business transactions with Gen. Vallejo, afterward obtained from him a title to a part of the same property. Mr. Thompson sent to Bucks county, Pennsylvania, for his brother, Simpson Thompson, to superintend the working and improvement of the land he had bought, and thereby laid the foundations upon which the nurseries of Messrs. Simpson Thompson & Sons were afterwards established.

In January, 1854, John Dolan, a native of Ireland, and Ansel W. Putnam, a native of Essex county, Mass., arrived at San Francisco. These men had worked at market gardening in the vicinity of Boston, Mass., and were seeking for an opportunity to grow vegetables for the San Francisco market. The Messrs. Thompson wanted some one to grow vegetables on their Suscol land. The parties met; agreements were made. The Thompsons furnished the needed capital. Putnam and Dolan were to furnish all needed labor. Putnam was to grow the crops, and Dolan was to market them. Owing, as was thought at the time, to the want of knowledge relating to the variety of crops best adapted to that climate and soil, the first year's work was not a financial success, neither was it a very serious failure. All parties were willing to "try again."

The second year's experience and observation led to the conclusion that the lateness of the season at Suscol was the greatest obstacle to success; and it was thought that if a branch could be established somewhere else for growing early crops, to be followed by later ones from Suscol, better results could be reached. With this idea in view, a careful examination was made, not only of the river lands from Suisun bay to Stockton on one hand and to Marysville on the other, but also of the Putah creek lands. The fact that the first ripe grapes in market were from the Wolfskill vineyard, led to the examination of land in that vicinity and that examination led to the discovery and location of the starting point of market gardening in Vacaville township. Arrangements were made with Milton Wolfskill to work a part of his claim. The spot selected was on the south side of Putah creek, a short distance above where the brook from Pleasants' valley enters the Putah—a good place for some future millionaire "garden-truck" grower to build a monument.

It is a principle in natural philosophy, that "progress is made by positive powers working upon and overcoming negative conditions." The negatives in

this case were,—no house, no fence, no hot-bed frames, no good roads. The positive powers brought to work upon these negatives were,—a wealthy and enterprising lumber-dealer, willing to furnish the lumber, the strong force of team horses and mules at the Suscol ranch, with but little for them to do between harvest and seed time, and some hard-working men who were very anxious to have the satisfaction of placing the first early vegetables on the San Francisco market.

These powers combined and worked. Lumber was ordered and shipped to Suscol; strong teams with skillful drivers were hitched to very small loads (thereby overcoming the negative conditions of the road); a shanty was built, the fence put up, hot-bed frames made, material for bottom heat in frames being collected mainly from the horse and sheep corrals in the vicinity; seed was planted, plants grew well through the winter, were set out in good condition in the spring and came forward very rapidly. Every move of the positive powers seemed to be a perfect success. Tomatoes, the main crop, began to ripen very early; the first, I think, sold at 75 cents per pound, the second picking at 50 cents; one picking, I think it was the third (we picked three times a week), gave 2,000 pounds; they sold at 25 cents per pound—making \$500 for one picking. The vines were loaded with green fruit; there were no other tomatoes in market; the later crops at Suscol were looking well; and prospects were bright, for the indications and expectations were that the Putah crop would meet the Suscol one: but a few exceptionally hot days scorched fruit, vines, expectations, hopes and profits, thereby practically throwing the fat of that experiment into the fire.

As a test of the capacity of that section to produce early vegetables it was a success; in other respects it was a failure. The experiment was of more value to owners of land in Vacaville township than to the owners of Suscol ranch. At the end of the third season the Messrs. Thompson withdrew their interest in the vegetable business; and Messrs. Putnam and Dolan bought a settler's claim to the land in Pleasants' valley now owned by John Dolan and Washington Johnson; and Mr. Putnam moved his family from Suscol to Pleasants' valley.

Mr. Putnam's connection with the fruit-growing interest of Pleasants' valley in its early days was more indirect than direct, as his work then was mostly on vegetables; but his frequent trips to Suscol gave growers an opportunity to get choice trees from the nurseries there, and probably many more trees and of a better variety were set than otherwise would have been the case. Mr. Putnam, as messenger, has the satisfaction of feeling confident that he took the first budded fruit trees into Vacaville township.

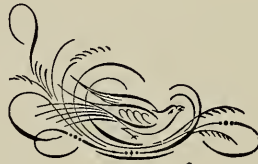
After moving his family to the valley, Mr. Putnam helped to form a combination of the positive powers of all the settlers to work upon and overcome the negative condition of the road to Suisun. Bridges were built; creek banks and hills were graded; between \$400 and \$500 worth of work was done gratuitously; and a wonderful improvement was made. It changed the aspect of affairs in the valley; it proved that satisfactory communication with a shipping point could be had without depending upon county money and county officials.

The work upon that road gave a greater impetus to improvement than any other one thing. The desire for improvement was grafted upon the workers; they had put their own time into the road; they had an interest in it; they wanted some fruit and vegetables to haul over it; they determined to have them; they grew them; they are still growing them more and more. Mr. Putnam has the satisfaction of knowing that he helped to set the scions from which has grown and still is growing the extensive fruit and vegetable trade of the Vacaville district. He still holds an undivided interest in it all; he has

never sold it. Who could pay for it? Any California pioneer who feels poor has not yet learned the best way to harvest the results of his work.

Mr. Putnam's work in the district is remembered and favorably regarded by all whom we have heard speak of it. The monument which he suggests as proper to be placed on the ground where the experiment with vegetables began need not be erected, for no monument could rival the lofty peak in the vicinity which now, by common consent of the people, bears Mr. Putnam's name. We have made frequent use of it as a landmark in the descriptions of the plates.

The vegetable interest which he and Mr. Dolan introduced survives and flourishes. It has brought competence or wealth to many people, and though now much of the vegetable ground of a decade or more ago is planted with fruit trees, the production of vegetables is still an important factor in the horticultural industry of the district.



CHAPTER II.

The Fruits of the Vacaville District.

THOUGH the natural conditions in the Vacaville district favor the growth of almost every fruit that is pleasing to the eye or delightful to the heart of man, the choice of kinds is dictated rather by the demands of trade than by natural adaptations. The planter endeavors to produce that which will win the highest price because of one or more of the following considerations : first, earliness of maturity to secure the benefits of first reaching both Californian and Eastern markets ; second, carrying quality, to endure long shipment in a sound condition ; third, suitability to the wants of fruit canners ; fourth, drying qualities, yielding a large percentage of product from the fresh fruit ; fifth, late maturity to reach the markets after similar fruit from other regions is disposed of. Thus the fruit growers of this district endeavor to strike a profitable sale, " first, last and all the time ;" and they are succeeding admirably in the undertaking. In this undertaking they are aided by natural conditions which are, in part at least, peculiar to their location. The topography affords shelter which gives a high winter and spring temperature and hurries the fruit to early maturity ; it insures cloudless days and fogless nights in the summer and early fall, and thus gives a long season in which the fruit dries in the open air and is bright and beautiful, unstained by moisture deposits. These considerations are simple and of immense commercial value. Other natural conditions which are not so easily understood are those which render some fruits, notably the Bartlett pear, later in maturing than in other parts of the State. The plain fact is that early fruits hasten to maturity and late fruits are retarded. There exists, for some undemonstrated reason, a sort of a natural divide in the season. Late maturing fruits will push along until about midsummer, then will seemingly rest for a time, and afterwards will proceed on their course and finish up well. There are at least two hypotheses

current among the residents in the district which are interesting to mention. One relates to moisture conditions in the soil, and holds that about midsummer the surface moisture is well spent and the tree rests until the subterranean water rises in the soil, as it is known to do in wells, and then the tree proceeds upon its work with the new supply. Another theory is that the midsummer heat wave arrests the progress of vegetation, and it starts again when the heat abates and evaporation is somewhat reduced. The writer does not undertake to explain the phenomenon which gives one region both the earliest apricots and the latest Bartlett pears, but the fact is as stated.

Another natural condition which ministers to attaining the best results in fruit for long shipping or for drying is the abundant rainfall, which gives full and generous growth and still secures a fruit which has no excess of water, as is apt to be produced where trees are artificially watered. The general characteristics of the fruit are firm flesh and dense juice with a high sugar percentage, and most delicate development of flavor and aroma. It is possible that distant readers who can only take their idea from fruit shipped overland may doubt the latter statements; but they should remember that fruit for overland shipment must be gathered while it is still hard, and before the sugar and aroma are developed by the ripening process. The nearest approach which the distant consumer can make to a demonstration, without crossing the continent, is to secure a sample of home or orchard canned Vacaville apricots or peaches. Even the commercial brands of California canneries cover fruit which is picked much sooner than the home canner would gather it.

In addition to the natural adaptations which enable the Vacaville grower to attain the five points of success which we have enumerated, there are wise acts which he puts forth in his own behalf. In early maturity and late maturity, in suitability for shipping, canning and drying, he finds that by choice of special varieties with the needed characteristics, he supplements the natural forces which favor him. There is among the growers the sharpest outlook for extra early varieties, for varieties with firm and durable flesh and which color as long as possible before they soften; for varieties which handle well in the preparation for drying and come out bright and heavy; for varieties which do not stain the juice in canning, etc., and for varieties possessing these qualities which ripen in succession, so that labor may be continuously and steadily employed. This search for the best varieties from different points of view has kept some of the older growers on the lookout for years for promising seedlings; and they think it profitable to test scores if one good one is secured thereby. The result is that in peaches, especially, the varieties most grown are of California origin and some of the best of them have originated within the limits of this district.

THE POPULAR FRUITS.

There are no trustworthy, comprehensive statistics available to show the proportionate area in each kind of fruit throughout the district. We attempt, however, an approximation to a segregation of this kind by using very complete reports which we have from 32 large and small orchards, chiefly in

Vaca valley. These 32 orchards comprise 2,578 acres of trees and vines and in them we find the different fruits standing relatively as follows :

Peaches, -	-	30	per cent.	Plums and prunes, 10	per cent.
Grapes, -	-	20	" "	Cherries, -	- 6 " "
Apricots, -	-	19	" "	Figs, -	- 1 " "
Pears, -	-	10	" "	Nectarines, -	- 1 " "
Various, -	-	-	-	-	2 per cent.

It is plain to see that if the orchards of Pleasants' valley and Putah creek were included, the percentage of grapes would be reduced and of peaches and apricots would be raised. The same would be true if Suisun valley were included; and in the latter case almonds would also be entered for a small percentage; for the almond cuts an important figure in Suisun though almost unknown in the upper parts of the district. It will perhaps be noticed, that the "king of temperate zone fruits," the apple, is conspicuous by its absence. The enumeration of 2,578 acres of orchard given above includes six acres of apples—about one-quarter of one per cent. It is doubtful whether the district, except perhaps its lower portion, can grow a first-class apple, unless it be very early varieties; but at all events other fruits pay better, and it does not seem likely that the apple will gain much standing except in family orchards. It is possible that some varieties might be found well adapted to the local conditions, but there is no incentive to the experimentation necessary to demonstrate the fact.

A few leading facts concerning each of the chief fruits of the district will be stated.

THE PEACH.

Probably fully one-third of the whole planted area of the district is occupied by peach-trees, and this fruit is constantly advancing. The peach, by the varied behavior of its many varieties, has a very long season, continuing from the beginning of June to the last of November—six solid months of peaches. Of course the extra early and the extra late are deficient in flavor, but a certain quantity of them sell well both in California and in the East. Some growers plant a few of these varieties and concentrate the balance of the land upon a series of the best mid-season varieties, which can be either shipped East or sold to canners or dried, according to the superior profit in one or the other means of disposition. Other growers, who do not have extra early locations, give their land wholly to a few good varieties ripening in succession and beginning shortly after the apricots are disposed of.

Much greater latitude in the choice of varieties is enjoyed by the growers in the Vacaville district than in some other parts of the State, because the location is comparatively free from curl-leaf, and he can do well with some varieties which must be rejected in some other parts. In fact, the peach tree is exceptionally healthy and vigorous, bearing profitable crops when very young, and, if properly cared for, enduring longer than the history of the district can determine; for some of the first-planted trees are still vigorous and productive.

The following are the lists of varieties reported by the growers named, some naming nearly all that do well, but most selecting those which they deem

the most profitable varieties. They are given approximately in the order of ripening :

F. H. Buck.—Alexander, May 25 ; Foster and Early Crawford, July 1 ; Mary's Choice and Reeve's Favorite, July 10 ; Late Crawford, Susquehanna, Gates' Cling and Muir, August 1 ; McKevitt's Cling, Roseville Cling, Lemon Cling, Runyon's Orange Cling and Seller's Golden Cling, August 10 ; Mother Porter and Lovell, August 20 ; Piquet's Late, September 1 ; La Grange, September 5 ; Salway, September 15 ; Heath Cling, September 20 ; George's Late Cling, October 1 ; Bilyeu's Late, October 15. These dates are, of course, given approximately and vary somewhat from year to year according to the season.

Mrs. G. M. Blake, Pioneer Ranch.—Gov. Garland, Hale's Early, Yellow St. John, Foster, Early Crawford, Susquehanna, Late Crawford, Brandywine, Piquet's Late, Salway, Yellow Cobbler, Miller's Late Free, Thanksgiving.

W. W. Smith.—Alexander, St. John, Foster, Early Crawford, Muir, Reeve's Favorite, Lord Palmerston, Susquehanna, Piquet's Late, Salway.

D. J. Parmele.—Alexander, Waterloo, Foster, Early Crawford, Henrietta.

Sears & Clarke.—Alexander, Early Crawford, Lemon Cling, Orange Cling, Susquehanna, Piquet's Late, Salway.

Robinson Brothers.—Alexander, Briggs' May, Hale's Early, Strawberry, Early Crawford, Foster, Late Crawford, Muir, Orange Cling, Susquehanna, Salway, La Grange, Heath Cling.

A. McKevitt.—Alexander, Hale's Early, Early Crawford, Foster, Susquehanna, McKevitt's Cling, Orange Cling, Piquet's Late, Salway.

O. Garlich's.—Alexander, Early Crawford, Foster, Susquehanna, Orange Cling, Salway.

J. F. McMurry.—Early Crawford, Orange Cling, Muir, Salway.

J. M. Bassford, Jr.—Alexander, Foster, Susquehanna, Muir, Salway.

Geo. H. Peabody.—Alexander, Foster, Susquehanna, Muir, Lemon Cling, Orange Cling, McKevitt's Cling, Salway.

W. J. Dobbins.—Foster, Early Crawford, Reeve's Favorite, Honest Abe, Susquehanna, McKevitt's Cling, Lemon Cling, Orange Cling, Seller's Cling, Heath Cling, Salway.

J. W. Gates.—Susquehanna, Grover Cleveland, Mother Porter, Gates' Cling, Seller's Cling, McKevitt's Cling, Muir, Salway.

W. J. Pleasants.—Alexander, Hale's Early, Early Crawford, Late Crawford, Muir, Lovell.

W. H. Buck.—Early Crawford, Susquehanna, Orange Cling, Heath Cling, Salway.

F. M. Buck.—Alexander, Early Crawford, Susquehanna, Salway.

J. A. Webster.—Foster, Early Crawford, Susquehanna, Muir, Salway.

A. C. Hawkins.—Early and Late Crawford, Susquehanna, McKevitt's Cling.

W. P. Buckingham.—Susquehanna, Orange Cling, Salway.

Mrs. E. P. Buckingham.—Foster, Susquehanna, Salway.

G. W. Thissell.—Selection of choice drying varieties, ripening in succession : Foster, Early Crawford, Muir, Late Crawford, Lovell.

Local Varieties.—Of the varieties named above several originated within the district and some facts of their source may be interesting.

Gates' Cling : Originated with J. W. Gates ; color, silver white, beautifully tinted with red ; flesh, white and firm ; flavor, delicate ; pit, irregular, but averaging large ; size, large, good specimens averaging $\frac{1}{2}$ lb. ; tree, very tender and subject to all ills affecting the peach, but thrives well only on first-class soil

and under favorable conditions ; fruit, not good for long distance shipment, but cans splendidly if fresh from the tree ; ripens last of July. Awarded a silver medal at Mechanics' Fair of 1883.

Grover Cleveland : Originated as chance seedling, with J. W. Gates ; a yellow cling with dark red cheek ; flesh, very firm, golden yellow, with very slight red at pit ; size, large and pit small ; flavor, excellent ; tree, very hardy and a regular and prolific bearer ; a fine fruit for shipping and canning ; ripens last of August.

Muir : Originated as chance seedling on place of John Muir, near Silveyville, named and first propagated by G. W. Thissell, of Winters ; fruit, large to very large ; perfect freestone ; flesh, clear yellow, very dense, rich and sweet ; pit, small ; tree, a good bearer and strong grower, if on rich soil to which it is best adapted ; free from curl in Vacaville district ; fruit, a good shipper and canner and peculiarly adapted to drying because of exceptional sweetness and density of flesh ; yield, one pound dry from less than five pounds fresh ; ripens last of July or first of August.

Lovell : Originated as chance seedling with G. W. Thissell and named by him in 1882 ; yellow freestone ; size, uniformly large, almost perfectly round ; flesh, fine, texture firm, solid, clear yellow to the pit ; tree, a good grower and bearer ; superior for canning and shipping and dries well ; ripens in August.

McKevitt's Cling : Originated as chance seedling in apricot orchard planted by M. R. Miller on place now owned by A. McKevitt, Vaca valley ; named in 1882 by nurserymen who propagated it ; a white clingstone ; flesh, very firm, fine grained, sugary and rich, high flavor, white to the pit ; skin, strong and fruit excellent for shipping or canning ; tree remarkably strong in growth and free from disease ; ripens in September.

Miller's Seedling : A white cling ; originated with M. R. Miller, of Vacaville ; ripens about two months later than McKevitt and sometimes sells high by Eastern shipment.

Many other varieties have been brought forward by growers of the district, but the above are the ones which have reached quite wide propagation. In the lists we have given as commended by the growers there are many other California seedlings which originated in other parts of the State. Among these are : Briggs' May, Mary's Choice, Roseville, Mother Porter, George's Late Cling, Honest Abe, Seller's Golden Cling and Runyon's Orange Cling.

GRAPES.

According to the statistics which we gathered of the acreage of different fruits in the Vacaville district, we have to award the grape a standing next to the peach. In its portion of twenty per cent of the acreage, it is, however, closely pressed by the apricot with nineteen per cent ; and if the Pleasants' valley, Putah creek and Suisun valley had reported, the apricot would probably have been clearly placed next to the peach. More than this, the grape acreage in Vaca valley is just now declining ; not that good table grapes do not pay good returns on the investment, but peaches and apricots pay better. For this reason, within the last two years, many young trees have been planted between

the vine rows and will displace them when they come in bearing. This reduction of the vineyard area may make the remaining vines more profitable, for the Vacaville district ripens grapes early and late and gives them exceptionally good shipping qualities because they are grown without irrigation. These facts promise a continuation of profitable Eastern shipments; and if we had healthy vines, and especially if we had a good stand of grafts on resistant roots, we should think twice before we took the ground from them. As for wine-grapes, they are almost unknown and bid fair to disappear entirely from the district. There is no commercial wine made and no near market for the fruit. The wine interest, however, flourishes in Green valley, which lies west of Suisun valley; it thrives in Napa county, across the mountains west of the district; and there is a prominent winery some miles to the north in Yolo county.

The grape crop of the Vacaville district is essentially a table-grape product. As a by-product there is a considerable amount of loose Muscatel raisins made of the scant clusters and of the clips from the packer's scissors, and some years these sell very well; but the product of first-class raisins is small, because the grapes sell far better for shipment.

A large number of *vinifera* varieties famous for table purposes have been tested by the different growers of the district, and quite a collection of varieties can now be made. Many have not shown good carrying qualities or have been otherwise unsatisfactory; and the disposition of late years has been to concentrate on a few standard kinds. These varieties, named to us by the growers as most profitable, are as follows:

- J. M. Bassford, Jr.—Tokay, Emperor, Muscat.
- Mrs. G. M. Blake.—Madeleine, Muscat, Tokay, Black Hamburg, Rose of Peru.
- W. H. Buck.—Chasselas Fontainbleau, Tokay, Cornichon, Emperor, Muscat.
- F. M. Buck.—Chasselas Fontainbleau, Muscat, Tokay, Rose of Peru, Emperor, Cornichon.
- Mrs. E. P. Buckingham.—Tokay.
- W. P. Buckingham.—Chasselas Fontainbleau for yield: Muscat for all purposes.
- W. J. Dobbins.—Tokay, Emperor, Cornichon.
- Antonio M. Esquivel.—Muscat and Tokay.
- O. Garlichs.—Chasselas Fontainbleau, Muscat, Tokay, Rose of Peru.
- J. W. Gates.—Chasselas Fontainbleau, Muscat, Tokay, Cornichon and Emperor.
- G. W. Gibbs.—Chasselas Fontainbleau and Muscat.
- L. J. Harbison.—Sweetwater, Rose of Peru, Muscat; the last most profitable.
- A. McKevitt.—Sweetwater, Chasselas Fontainbleau, Muscat, Muscatella Gordo Blanco, Tokay, Emperor, Cornichon, Black Ferrara.
- F. B. McKevitt.—Sweetwater, Fontainbleau, Muscat, Muscatella Gordo Blanco, Tokay, Emperor, Cornichon, Rose of Peru, Black Malaga.
- J. T. McMurtry.—Muscat and Tokay.
- George H. Peabody.—Chasselas Fontainbleau, Muscat, Emperor, Tokay.
- D. J. Parmele.—Chasselas Fontainbleau, Muscat, Tokay.
- Robinson Brothers.—Chasselas Fontainbleau sells best; Rose of Peru, Black Malvoise, Muscat yield best; Tokay.
- J. Nathan Rogers.—Muscat and Tokay.

Sears & Clarke.—Tokay and Muscat.

W. W. Smith.—Chasselas Fontainbleau, Sweetwater, Muscat, Tokay, Rose of Peru, Emperor, Cornichon.

D. K. Swim.—Muscats are of superior flavor and make good raisins.

J. A. Webster.—Muscat and Tokay.

Thus it appears that the Muscat of Alexandria and the Flame Tokay are the ruling varieties; the Chasselas Fontainbleau and Sweetwater prevailing as early varieties; the Emperor and Cornichon for late. A grape newly introduced from Europe by A. Montpellier and named the Balkan somewhat resembles the Emperor and is now under trial. It promises well as a distance shipper. Mr. Montpellier has also very early varieties under trial which he is not yet ready to report upon.

THE APRICOT.

The apricot serves three important ends: shipment to near and distant markets, sale to canners, and drying; and these ways of disposing of the fruit, acting as a check upon each other, make the product a very safe one. Sales of dried apricots in 1887 were so good that many growers this season will not take less than 2½ cents per pound for their fruit, delivered on the cars in Vacaville, because the fruit is worth quite as much as that to dry. The fact is that Eastern consumers are only beginning to understand what a delicious fruit a well-dried apricot is; and the outlook is very promising. The apricot tree is one of the most beautiful, vigorous and productive of our fruit trees. It is also a long-lived tree when properly pruned and cultivated. The objection to it is that it is impossible to extend the crop over a very large season, though some margin can be had by choosing varieties, but nothing like the succession obtained with the peach. Then, too, a few extra hot days just at the right time ripen the whole crop at once and quick work has to be done. Still the apricot is one of the mainstays of the Vacaville fruit interest, and is gaining in extent as has already been intimated.

There is a greater disposition to rely upon a single variety of apricot in the Vacaville district than elsewhere in the State, and this variety is the Royal. Its constant and abundant bearing, the partiality of canners to it and other considerations, give it the lead in the planter's mind. Reports received from upwards of thirty growers name the Royal as the most profitable variety; and but few of them have any considerable number of trees of any other variety. The Pringle has been the reliance for years as an extra early variety; but it is valueless except as the forerunner of the main crop. Recently there have been many Early Montgamet planted in the hope of getting something early, and at the same time of some size and flavor. The trees are still too young to demonstrate the value of the variety.

Thissell's Seedling: Believed to be a cross between Pringle and Royal, and named for G. W. Thissell, who first propagated the variety from a tree growing on the place of Parker Adams and Hosea Torres, and now owned by Brinck Brothers. It is a clingstone of high color, a little smaller than the Royal, but ripening earlier and sells for the Royal. The variety is somewhat disposed to interior decay. It has been shipped East and brought excellent prices.

Triumph : A seedling originating with W. W. Smith, and selected from nursery row because of its foliage and bark showing unusual amount of red coloring. It ripens between Royal and Moorpark and is as large as the latter ; rich, yellow color, with reddish skin. Promising to be a valuable variety, but so far rather a shy bearer.

Allison : Originated on G. W. Maylone's place, formerly owned by Josiah Allison. The original tree was accidentally destroyed after fruiting twice, but fortunately buds from it had been set before its destruction. L. J. Harbison fruited the variety in 1887 and mentions its characteristics as large size and no overbearing. He easily found four apricots that weighed a pound, and in a fifty-pound box, taken without selection, the fruit averaged seven and one-fifth apricots to the pound. No thinning was done. The variety is believed to be a seedling from what is locally known as the "White Royal." The flavor is good, said to be better than its parent. The fruit in some places showed black at the pit in 1887 ; in other places it was healthy.

There are Royal seedlings in the district showing a disposition to be extra early ; but we do not dare to say where they are. If there is anything which an early fruit grower guards with more zeal than his own good name, it is a promising seedling by which he thinks he may get a "scoop" on his neighbors. The Eureka, a very large early variety which originated in another part of the State, is grown by Mr. Parmele, and commended. The Newcastle apricot is also on trial by several growers. Mr. A. Montpellier has a French variety, the Boulbon, which is said to be very early and large.

THE PEAR.

The experience with the pear in the Vacaville district is like that with the apricot in that a single variety enjoys a general popularity. The Bartlett is the honored sort ; and the interesting fact of its late ripening and consequent value has already been alluded to. The matter is of such peculiar interest, that a fuller statement made by W. W. Smith to the State Horticultural Society in September, 1886, will be pertinent :

The Vacaville Bartletts are clean and as good as any, but they come very late. This is desirable because it brings them to market after all other Bartletts are gone, both here and at the East, and they bring a high price. He has picked Bartletts as late as November 19th, but that is later than usual. The trees were on stiff adobe soil and very dry. They remained very small during the hot weather, and then began to grow again in the fall, and grew large and handsome until picked in November. The explanation given of the behavior of the Vacaville Bartletts is that in the hot weather of July and August they become, as it were, dormant ; they hang on, but do not increase in size. Afterward, when the moisture begins to rise in the soil, they start growth again and ripen up finely. Madeleine and Doyenne d'Ete ripen, but Bartlett and winter pears are retarded, as described. This peculiar manner of growth could be changed by irrigation ; but it is more profitable to have them come in late, as they naturally do. It is true that Bartletts are now being shipped from Vacaville, but they are green.

The Winter Nelis pear does well in Vacaville, but few trees are yet in bearing. The Bartlett generally does best in warm valley situations. Clapp's Favorite ripens before the Bartlett, and is a good shipping pear—selling for the Bartlett.

The pears mentioned by Mr. Smith cover all the sorts which growers in their reports to us have commended as profitable. The Winter Nelis ranks next to the Bartlett in popularity. Some growers have a few trees of the Madeleine, the fruit selling well because of its earliness. Clapp's Favorite, as Mr. Smith says, serves the market for a Bartlett. The Eastern shipment demand covers a large part of the pear crop of the district.

THE PLUM AND PRUNE.

Plums and prunes are about equal to the pear in occupation of acreage in the district, and both together are about equal to the apricot or the grape. The choice of plums is for two purposes—for shipment as early fruit and for curing as a prune. First in the season is the cherry plum which, like the Pringle apricot, has little to commend it but its earliness and consequent profitable sale. Next comes a much better fruit, the Royal Hâtive, which is generally known locally as the St. Catherine. It is in good demand for Eastern shipment. The "Hungarian prune" or English Pond's Seedling, which is its correct name, is also grown to some extent for shipment. Other varieties, of which there is only a small acreage in the district, are Duane's Purple, Washington, Jefferson, Peach, Egg, the Gages, Coe's Golden and the Silver Prune. An early plum called the Clyman, originating in Napa valley and propagated by Leonard Coates, is grown by J. M. Bassford, Jr. He reports it as ripening with the cherry plum and infinitely superior to it in every way.

Of the plum and prune acreage, however, a large share is given to the French prune, the *petite d'Agen*. It succeeds admirably, and the cured product has won a good name among experts, as shown on page 20.

THE CHERRY.

Though the proportionate cherry acreage of the Vacaville district is small, the fruit occupies a prominent place in public esteem, both because of its inherent merits and because it is the first fruit of the season, and always commands a high market value. Cherries have ripened as early as March 31st; in fact, growers count that a month of good weather from the bloom will ripen an early cherry. The cherry has been the foundation of several fortunes in the district. The crop of each variety is usually ripened and sold before the same variety matures in other cherry-growing districts. The varieties grown are for the most part standard sorts and are reported to us by the growers as follows:

J. M. Bassford, Jr.—Early Purple Guigne, Black Tartarian, Royal Ann.

J. M. Bassford, Sr.—Early Purple Guigne, Governor Wood, Knight's Early Black, Black Republican, Rockport Bigarreau, Black Tartarian, Centennial, Royal Ann.

F. M. Buck.—Black Tartarian, Royal Ann.

Mrs. E. P. Buckingham.—Guigne Marbree, Early Purple Guigne.

W. P. Buckingham.—Black Tartarian.

O. Garlichs.—Black Tartarian, Royal Ann.

J. W. Gates.—Early Purple Guigne, Black Tartarian.

G. W. Hinclay.—Early Purple Guigne, Black Tartarian and Elton.

A. McKeivitt.—Early Purple Guigne, Governor Wood, Black Tartarian, Royal Ann.

F. B. McKeivitt.—California Advance, Early Purple Guigne, Black Tartarian, Centennial, Royal Ann.

George H. Peabody.—Guigne Marbree, Early Purple Guigne, Rockport Bigarreau, Black Tartarian, Royal Ann, Centennial.

D. J. Parmele.—Royal Ann.

Robinson Brothers.—Belle d'Orleans, Black Tartarian, Black Heart, Royal Ann.

W. W. Smith.—Early Purple Guigne, Rockport Bigarreau, Black Tartarian, Royal Ann.

The varieties of Pacific Coast origin which are named by the growers above, are the Centennial and the California Advance, seedlings by Henry Chapman, of Napa valley, which were first propagated and introduced by Leonard Coates, the nurseryman of Napa. The Advance, as its name indicates, is held to be extra early. It is a seedling of Early Purple Guigne, and is described as "larger, more obtuse, firmer, a much better bearer, color almost black, and a week earlier than its parent." Fuller experiment is needed to fully demonstrate its value. The Centennial is one of the most excellent cherries for long keeping or distant shipment. It has remarkably firm flesh, color pale yellow, marbled and splashed with crimson. It is a seedling of Napoleon Bigarreau, but is sweeter than its parent and has a smaller pit. The Black Republican cherry originated with Seth Lewelling, of Oregon. The cherry called Royal Ann is identical with Napoleon Bigarreau.

Recently cherries have been shipped overland to Eastern markets very successfully. There is reason to expect a great expansion of this trade.

FIGS.

Many allusions have been made to the growth of the fig and the handling of its fruit in the description of the plates. As soon as it is demonstrated that the true Smyrna fig or fig of commerce has been secured, there is likely to be an increase in the fig acreage of the district. At present the common California Black or Mission fig is the one chiefly grown, although nearly all kinds are to be found in the region.

NECTARINES.

Those who have dried nectarines have received very good prices and produced a most beautiful translucent amber-hued fruit. The varieties chiefly grown are the New White, the Boston, and a seedling which originated with W. W. Smith.

VARIOUS.

This classification includes almost everything known to horticulture in the line of deciduous fruits, citrus fruits and small fruits. Although it is the rule of the growers to have large lines of special fruits—for such products can be most economically handled and most profitably sold—nearly all have a few trees or plants of this or that either for experiment or for home use.

As has been remarked in connection with the plates, oranges and lemons have been grown almost from the first settlement of the valley; but the superior profit in other fruits, which yield a crop sooner from the planting, has prevented any large ventures in citrus fruits. And yet there are oranges marketed from the district every year; and they ripen so early that they are marketed the latter part of November and bring a good price on a bare market.

CHAPTER III.

Cost and Product of Orchard and Vineyard.

THE bent of the American mind after figures leads us to attempt a brief compilation of statistics as to the cost of planting and maintaining an orchard and vineyard, also as to yields of trees and vines of different ages. These facts may be of interest to the general reader, as well as to the one who may read with the idea of enlisting his capital and labor in undertakings like those which have made the Vacaville district famous throughout the country, and have changed a land which twenty years ago was the abode of a few live-stock and wheat farmers, into a region comparatively thickly settled with prosperous and progressive horticulturists. We say *comparatively* thickly settled, for a region cannot be thickly settled where two and three hundred acre orchards exist. As a matter of fact, the population of the district is only beginning to multiply. The pioneers in fruit have done a grand thing for their successors as well as for themselves in installing such an area of young and vigorous trees; and they will realize a rich reward for their labor and enterprise in cutting up their grand properties into such parcels as will easily sustain families, and furnish a pleasant means by which nearly all members of the household can contribute to the common income. This consideration leads to the conclusion that it will be interesting to discuss the purchase of bearing orchard, as compared with the building up upon bare land, which we will attempt presently.

First the cost of planting and maintenance and the outlay required for an outfit sufficient to operate a small orchard or vineyard. Rather than indulge in generalizations on this subject, we have secured estimates from a number of practical growers who have actually done what they describe; and these statements we present without further introduction:

Mrs. E. P. Buckingham.—The cost of orchard the first year will be \$25; second year, \$10; third year, \$13. The product the third year will pay cost of trees and all outlay up to that time.

W. P. Buckingham.—One hundred and fifty dollars per acre will pay for trees, planting, cultivation and care until the trees are four years of age, when grapes, peaches and apricots bear quite freely.

L. M. Frick.—Preparing for planting, \$6 ; planting, \$2 ; cultivating, \$2 ; total, \$10 for first year. Second year, pruning, \$1 ; plowing and cultivating, \$5 ; total for two years, \$16 for grapes. Add \$6 for another year with peaches and apricots, as they are longer in coming into fruit.

O. Garlichs.—The cost will be \$15 per acre.

J. W. Gates.—Cost of orchard per acre first year, including trees, \$25 ; cultivating and pruning for three years, \$30 ; total, \$55. Cost of vineyard first year, including cuttings, \$15 ; cultivating, etc., two years, \$20 ; total, \$35.

A. C. Hawkins.—I should estimate the cost at \$15 per acre for three years.

G. W. Hinclay.—The outlay will amount to \$50 per acre when the trees come to bearing age.

J. T. McMurtry.—Trees for one acre will cost \$15 ; planting, \$2.50 ; and \$15 per year after that will cover care and cultivation.

D. J. Parmele.—The trees and the first year's work will cost \$25 ; second year, \$5 ; third year, \$7 ; fourth year, \$8. Vineyard will cost \$15 less the first year, and the same as orchard afterward.

W. J. Pleasants.—An orchard will have cost \$100 an acre by the time it begins to bear a paying crop.

Sears & Clarke.—The approximate total cost per year will be \$15 per acre.

W. W. Smith.—The cost will be \$12.50 per acre per year for three years ; after that the product will cover all expenses.

We will not attempt to decide where doctors thus disagree. It should be noticed, however, that some estimates include the price of trees ; others do not. We should expect, however, in planting early-bearing trees, like peaches and apricots in that district, to bring them to profitable bearing without a greater outlay than \$50 per acre, including trees—unless it happened that the trees we wanted ran high through scarcity as they did in 1888. As for care of orchard, we understand that a common contract price in the district is \$10 per acre per year for cultivation and pruning.

VEGETABLE GROWING IN YOUNG ORCHARD.

There is another factor in the equation which enables a planter of limited means to secure an orchard with less cash outlay, and that is by growing early vegetables between the trees. Generally the practice is not to be commended; but if there be an exception to this rule it will hold in the Vacaville district for several reasons : First, the vegetables come early and are usually worth something. Second, the abundant rainfall of the district makes it possible to grow vegetables, if they are kept a proper distance from the trees, without encroaching upon the moisture which the trees need to make a good growth. Third, the depth and richness of the soil of the district, generally speaking, makes the danger of robbing the trees of food very slight, and full return can be made in later years from the barnyard. But if we did not need the financial help which the vegetable crops offer we should for all

that give the orchard good clean culture and let the trees have the ground to themselves. The following show the opinion of several growers on the inter-culture with vegetables:

G. W. Gibbs.—In the foothills corn, beans, tomatoes, squash, egg-plant and peppers may be planted between the rows of trees until the trees begin to bear. It is an advantage to the trees as they will be well cultivated.

F. M. Wertner.—I have grown vegetables between my trees during the first two years of their growth and have made enough to pay for the trees and their cultivation. I believe the trees get better cultivation with the vegetables than they would otherwise.

L. M. Frick.—In this vicinity expenses may be made by raising early vegetables between the trees.

J. B. Vine.—In regard to the productiveness of our soil, I would say that we can raise anything. For the last few years I have been growing on the land between the trees—tomatoes, potatoes, corn and string beans; and all seem to do well side by side.

D. B. Derby, on his newly planted 100-acre orchard on Putah creek, rents the ground the first year for vegetables, stipulating that nothing is to be planted within eight feet of the trees. The renter cultivates, suckers and otherwise cares for the trees. This is equivalent to a cash rent of about \$7 per acre.

Some facts concerning the growth of vegetables on their own land will be given in another connection.

IS IT BETTER TO GROW OR BUY AN ORCHARD?

It is quite an interesting question as to whether one who has ready money to invest will make the better investment by buying bare land at the rates which now rule for what little valley land there is left unplanted, or buy bearing orchard at the price at which sales have been recently made. Of course, while land in a desirable situation is cheap, there can be little question as to the profit in growing the orchard, as those have realized who bought Vaca valley land at \$60 per acre and now value it at from ten to fifteen times as much, or more, and show a large percentage of profit even at the increased valuation. But bare land has a way of quickly sympathizing with adjacent improvements; and comparative value to the present purchaser becomes a much closer question. We are favored with a consideration of this subject by a gentleman who has had much experience in financial matters and good opportunities for judging of the comparative value of investments. His views will have the greater weight with the general reader if we state that he had confidence enough to act upon them with his own money, which is a crucial test of belief in large profits in spite of the high cost, to say the least of it. The following is the contribution from the source indicated:

In regard to the value as compared with the cost, of improved and unimproved orchard land, I am more strongly convinced than ever that an orchard five years old, in good condition, is cheaper at \$600 per acre than land of the same quality for the same purpose at \$300, which seems to be about the price of good unimproved land in this section at the present time. In other words, it will cost over \$600 per acre (counting the cost of the unimproved land at \$300) to grow an orchard to the age of five years and have

it in first-class shape. I speak from my own experience, having bought in one case twenty acres and improved it, and in another a small place in bearing. The cost would be about as follows :

FIRST YEAR—

Land per acre	\$300 00
Cultivating before planting	10 00
Trees	15 00
Cultivating after planting	10 00
State and county taxes	5 00
Interest at 10 per cent	30 00

SECOND YEAR—

Cultivation	15 00
Taxes	5 00
Interest	40 00

THIRD YEAR—

Cultivation and pruning	15 00
Taxes	5 00
Interest	45 00

FOURTH YEAR—

Cultivation and pruning	15 00
Taxes	5 00
Interest	50 00

FIFTH YEAR—

Cultivation and pruning	20 00
Taxes and interest	60 00

These figures are all in round numbers, and no mention is made of a thousand and one little items that would bring the total to \$700 or over per acre. Hence it is not only cheaper but better for a beginner to buy the improved orchard. You know then exactly what variety of a tree you have, whereas in planting the orchard yourself you cannot tell until the trees bear fruit, say at three to five years of age, whether the nurseryman has given you what was ordered or something else. If the latter, which will often be the case, you begin to work over your trees by budding or grafting ; you then not only have an ill-shaped tree, but an ill-shaped orchard, for a portion at least of the buds or grafts will not grow, and the work has to be done over the following year. It is not so much the expense of working the trees over as it is the loss of crop, which will be for at least two years, and is no small item at that time. This is not a guess, nor a theory simply, of mine, but costly experience. For instance, I at one time ordered 325 Royal apricot trees, planted them, gave them good care, and the fourth year discovered there were about sixty Royals and that the rest were lemon apricots, which were worthless in this section. I had them budded in the fall ; and for two years have had to nurse them like a sick kitten, sacks having to be tied around the trunks as protection from the sun ; the young shoots have to be pinched off every few weeks, so that the limbs may not get too long and be blown out at the bud. The old limb has to be sawed off first about eight or ten inches from the bud, and after the bud has started sawed again close to it. So you see a man wants not only a little sand mixed in his soil, but a good deal of it in his system, to successfully grow an orchard from the ground up ; whereas if he buy one already grown he not only saves money but lots of worry and vexation of spirit.

Don't think from what I have said that I have an orchard for sale, for I have not ; nor that the occupation is all work and no play, for it is certainly an interesting study, from the planting of the first tree to the cultivation of the soil, the pruning of the tree, picking, packing, drying and shipping of the fruit, to say nothing of the eating, and, *generally* most pleasing of all, receiving your returns.

It will be noticed that the writer of the foregoing places the cost of planting and subsequent care of young orchard much higher than the others whose estimates we have given. It is just as well to have an extreme outside estimate on record, for all do not have the faculty of getting work done well and cheaply; and we do not desire to mislead any one by presenting overfavorable figures. It should be borne in mind that the interest on the purchase money is placed high; also, that the purchaser in most cases would put in his own time in cultivation, etc. And though the aggregate cost of the orchard seems high, it represents to the owner in large part the interest on his money and the pay for his time, so that he really enjoys the increase in wealth as an equivalent for his investment and effort, as he should do.

The satisfaction and advantage of obtaining immediate and liberal returns from investment are certainly great when compared with the wearisome waiting for the plantation to arrive at profitable bearing, and the rigid economy which some have to practice during this period; and yet many undergo it and enjoy the triumph the more perhaps when the tide turns and income pours in in good volume. These matters could be discussed at length; but it is hardly worth the time, for every reader having here the premises on both sides can draw his own conclusions.

It should be noted, however, that good bearing orchard cannot always be had for \$600 per acre. In fact, many of the best places are steadily held at \$1,000 per acre; and the price is justified by the large interest which their income pays on such a valuation. So that even taking our friend's estimate of \$700 per acre as the total cost, including good interest and liberal pay for time, the man who develops the property has perhaps a value of \$1,000 to measure his results by instead of \$600, which the writer takes as the standard price of a bearing orchard.

There is one thing more of the highest importance to the purchaser, and which he should steadily bear in mind: All bearing orchard is not of equal value. There is, perhaps, as small a percentage of poor land in the Vacaville district as in any other equal area of California's surface, and yet there are wretchedly poor spots. There are also poor and almost valueless trees, rendered so through neglect or ill-treatment perhaps, or because of unprofitable varieties. An experienced grower of Vaca valley estimates the annual income of bearing orchard "from \$50 to \$1,000 per acre according to variety and the market." These are, of course, the very extremes; but they show the purchaser that he should make wise selection, and unless himself well informed in California fruit-growing, should secure the advice of a competent and disinterested expert.

ACTUAL YIELDS OF BEARING ORCHARD AND VINEYARD.

To show that such yields are liberal and their cash value large, we cannot do better than to present, in condensed form, statements concerning the produce and income of various trees and vines of different ages. We give these on the authority of the growers whose names are appended and who have personally reported them to us:

ACTUAL YIELD OF BEARING ORCHARD AND VINEYARD.

GROWER.	Fruit.	Variety.	No. Acres.	No. Trees.	Age, Years.	Lbs. Green.	Lbs. Dried.	Gross Receipts.	Net Receipts	Selling Price.
W. J. Dobbins	Apricots	Royal	42½	....	5	.....	.....	\$7,740	.....	.....
Mrs. M. P. D. Jagger..	"	"	.....	500	4	46,200	.....	1,286	.....	3c.
John Wells .....	"	"	.....	300	4	*33,000	6,000	660	.....	11c.
L. W. & F. H. Buck...	"	Average per acre	2	....	4	.....	.....	.....	\$200	.....
A. McKevitt	"	"	2	....	Old	.....	.....	.....	950	.....
F. B. McKevitt	"	"	10	....	3 to 5	90,000	.....	.....	per acre	.....
J. W. Burnham .....	"	.....	.....	400	4	8,000	.....	.....	3,300	1.6c.
I. K. Buck .....	"	.....	.....	390	4 & 5	.....	3,500	.....	.....	.....
J. W. Gates .....	"	.....	30	....	3 & 4	112,727	.....	.....	.....	.....
John Dickson .....	"	.....	.....	1600	4	160,000	.....	.....	.....	.....
John Dickson .....	"	.....	.....	9	25	.....	.....	21	.....	.....
W. W. Smith .....	"	.....	12	....	.....	.....	.....	avge pr. tree	350	.....
L. W. Buck	Peaches	.....	.....	700	3	60,000	.....	.....	per acre	.....
A. McKevitt .....	"	.....	5	....	15	.....	.....	.....	612	.....
F. B. McKevitt	"	Salway	2¼	....	.....	40,000	.....	.....	per acre	.....
F. B. McKevitt	"	Piquet's Late	.....	1	6	260	.....	.....	1,500	.....
Hamilton Glass .....	"	.....	.....	800	4	.....	.....	.....	800	1½c.
W. J. Dobbins	"	Salway	.....	600	4	.....	.....	.....	897	.....
F. J. Bassford .....	"	.....	.....	800	4	64,000	.....	.....	.....	.....
W. H. Lamb .....	"	.....	.....	1500	4	.....	.....	.....	500	.....
Sears & Clarke .....	"	.....	12	....	4	per tree, 200	.....	648	.....	3c.
J. W. Burnham .....	"	.....	.....	800	4	24,000	.....	.....	.....	1.6c.
John Wells .....	"	.....	.....	500	4	.....	.....	1,400	.....	.....
P. H. Lepley .....	"	.....	.....	400	3	.....	.....	300	.....	.....
H. G. Winchell	"	Susquehanna	.....	200	3	per tree, 100	.....	.....	.....	.....
G. W. Thissell	"	Muir	.....	1	3	75	.....	.....	.....	.....
G. W. Thissell	"	Lovell	.....	1	4	180	.....	.....	.....	.....
I. K. Buck .....	"	.....	775	.....	3 & 5	40,955	2,957	.....	.....	.....
W. H. Buck	"	Early Crawford	.....	150	4	17,000	.....	.....	.....	.....
W. H. Buck .....	"	"	.....	150	5	30,000	.....	.....	.....	.....
L. W. & F. H. Buck...	Peaches and Nectarines	Various	.....	.....	3	.....	.....	.....	75	per acre
L. W. & F. H. Buck...	"	"	.....	.....	4	.....	.....	.....	150	per acre
Mrs. E. P. Buckingham	Peaches and Apricots	"	.....	.....	3	.....	.....	.....	76	per acre
Mrs. P. H. Barrows ...	Peaches, Apricots and Grapes	.....	12	....	4	.....	.....	1,200	.....	.....
W. H. Buck .....	"	.....	12	....	5	.....	.....	3,000	.....	.....
F. Herbert Buck .....	.....	.....	13	....	4 to 11	.....	.....	3,000	.....	.....
Tucker & Tubbs	Pears	Bartlett	.....	.....	12	.....	.....	per tree, 9	.....	.....
Tucker & Tubbs	Figs	.....	.....	.....	12	.....	.....	per tree, 15	.....	.....
W. H. Buck	Grapes	Tokay	500	.....	4	12,000	.....	.....	.....	.....
I. K. Buck	"	Various	2700	.....	3 to 5	49,100	.....	.....	.....	.....
L. W. & F. H. Buck...	"	"	.....	.....	3	.....	.....	.....	50	per acre
L. W. & F. H. Buck...	"	"	.....	.....	4	.....	.....	.....	90	per acre
Sears & Clarke	"	Zinfandel	.....	.....	4	26,000	.....	.....	.....	.....
J. W. Gates	"	Chasselas	.....	.....	4	10,000	.....	.....	.....	.....
J. W. Gates	"	Font.	.....	.....	4	.....	.....	.....	.....	.....
J. W. Gates	"	Tokay and Muscats	.....	.....	4	20,000	.....	.....	.....	.....
S. Z. Hartshorn	"	"	10	....	4	.....	.....	.....	100	per acre
L. W. Buck	"	Chasselas	.....	.....	11	40,000	.....	.....	.....	.....
L. W. Buck	"	Font.	1	....	.....	.....	.....	.....	.....	.....
L. W. Buck	"	Various	20	....	.....	480,000	.....	.....	.....	.....

*i. e. 33,000 lbs. fresh fruit made 6,000 lbs. dried, which sold for \$660.

The foregoing table includes only a few statements, but gives a clue to the bearing of various trees chiefly in their early years, and in this way may be of interest to intending planters.

Concerning the age at which the different growths begin to bear in the Vacaville district, Mr. G. W. Gibbs writes: "Grapes two years from cutting; peach tree, two years; apricot, four years; cherry, six years; pear, three years; plum, three years, French prune, four years; fig, two years." Most trees are one year old from the bud at the time of planting out in orchard, though some are planted in dormant bud.

The leading crops, peaches and apricots, on soil adapted to them and well cultivated from the first, are reasonably certain to pay expenses by the third or fourth year and a good profit the year following—lacking either proper soil or cultivation they may never pay.

COST OF OUTFIT, AND INCOME FROM SMALL ORCHARDS.

As it seems probable that there will be a much greater demand in the future for small fruit farms, we have secured from a number of orchard owners estimates of the cost of the outfit which a small farm would require. The following are the statements:

W. P. Buckingham.—I should say that \$750 would equip a twenty-acre place with animals and implements; much less if an inferior article was used. It is a poor fruit farm which will not net \$150 per acre when in full bearing.

O. Garlichs.—A twenty-acre place can be worked with two horses, which can be bought for \$100 each. The income will be from \$100 to \$200 per year per acre, besides all expenses.

J. W. Gates.—On a twenty-acre place, one span of horses can do all the work. Such a team would be worth from \$200 to \$300 dollars; set of harness, \$25; one wagon, \$150; two plows, \$20; one harrow, about \$15; single and double trees, about \$5; pruning saws, shears, hoes, etc., etc., about \$20. Hay is worth from \$10 to \$12 per ton delivered, and crushed barley is worth about \$20 per ton. As to income, that is a hard question to answer. A place in full bearing, under ordinary circumstances, and with present prices, should produce about \$150 per acre. Our peach orchard brought us \$165 per acre this year.

G. W. Gibbs.—A thirty-acre farm will require one pair of horses, \$125; two plows, \$20; one cultivator, \$10; one harrow, \$10; wagon, \$75. If the thirty acres are in full bearing, with good selected fruit, the gross income will be between \$4,000 and \$5,000.

L. J. Harbison.—Animals and implements for five acres ought to be had for \$300; for ten to twenty acres, \$500.

A. McKevitt.—A good team costs from \$250 to \$400; plows, \$10 to \$15; cultivators, \$12.50 to \$15, etc. One team, two plows (one and two horse), one harrow and one cultivator, will keep forty acres of land in fine shape.

EXTENSION OF THE ORCHARD INTEREST.

Though our plates have shown so great a proportion of planted area, there is still most rapid extension going on. Reclaiming the hillsides from native growths and the outlying lands from wheat is vastly increasing the fruit acreage from year to year. The splendid profits which have been realized are a natural incentive to such work. An indication of the increase in planting may be

found in the statement of D. B. Derby, agent of the California Nursery Company, that in 1887 he sold 100,000 trees in the vicinity of Suisun, Vacaville, Elmira and Winters, about twice as many as during the previous year, and he estimates the total new plant of 1887 within the district at 2,500 or 3,000 acres. The future promises still greater extension of the orchard area of the district.



CHAPTER IV.

Dates of Fruit Shipments.

THE early maturing of certain fruits and the lateness of others, the consequent length of the fruit season, which is of great importance both to the grower and consumer of fruits, have all been alluded to. To demonstrate these facts beyond cavil, there can be no better evidence than the recorded dates of shipments by different growers; and those we have been at some pains to secure. Wherever possible, dates have been obtained for several years, and in some cases the prices realized at the given dates are appended.

E. R. Thurber, Pleasants' Valley.

First shipment of apricots in each year for ten years :

YEARS.	PRINGLE.	ROYAL.	YEARS.	PRINGLE.	ROYAL.
1878	May 27		1883	May 21	June 20.
1879	May 15		1884	May 27	
1880	June 7		1885	May 7	June 22.
1881	May 13		1886	May 19	June 8.
1882	May 26		1887	May 18	June 3.

First shipment of other fruits :

YEAR.	FIGS.	ALEXANDER PEACHES.
1884	June 27	
1886	June 21	June 5.
1887	June 3	

H. & W. Brinck, Pleasants' Valley.

First shipment of various fruits for fourteen years :

YEAR.	PRINGLE APRICOTS.	ROYAL APRICOTS.	FIGS.
1875	May 12	May 20	
1876	May 20	June 2	
1877	May 10	May 23	
1878	May 13	May 27	June 10.
1879	May 15	June 3	June 16.
1880	June 5	June 14	June 24.
1881	May 9	May 18	May 31.
1882	May 22	June 1	June 15.
1883	May 21	May 21	June 15.
1884	May 26	May 26	June 12.
1885	May 4	May 11	June 1.
1886	May 17	May 21	June 11.
1887	May 18	May 25	June 6.
1888	May 8	May 12	June 4.

On June 11, 1884, Brinck Brothers furnished 434 boxes of Royal apricots and 98 boxes Alexander peaches to the car which started on that day from Winters for Chicago, the first car of the season of 1884. On May 19, 1885, they furnished about the same quantity to the car which started on that day—the earliest full carload which up to that year had left California for Chicago.

F. N. Wertner, Pleasants' Valley.

YEAR.	PRINGLE.	ROYAL.	PEACHES.	FIGS.
1882			June 9	
1883	May 24	June 1	June 1	
1884	June 6	June 14	June 3	
1885	May 7	May 14	May 14	
1886	May 18	May 31	May 31	June 11.
1887	May 19	May 30	June 1	May 30.

G. W. Thissell, Pleasants' Valley.

YEAR.	APRICOTS.	PEACHES.
1883	May 6	June 4.
1884	May 7	June 10.
1885	May 4	June 6.
1886	May 3	June 5.
1887	May 6	May 29.

In connection with his report of dates of shipment, Mr. Thissell writes as follows:

"We finish shipment of apricots by July 15th. Peaches last till September; but the late 'October peach' has been picked and shipped for Christmas. The true peach season, however, is from June 1st to September 30th—September being a good drying month. Peaches after that do not dry well in the sun, and are not of much account."

G. W. Hinclay, Pleasants' Valley.

In 1885 Mr. Hinclay sent cherries to San Francisco on April 3d, apricots on April 30th, and they sold for fifty cents per pound. In 1886 his latest peaches were sold in San Francisco on Thanksgiving Day, November 25th, for \$2.00 per box. This shows a fruit season extending nearly eight months.

B. R. & J. Sackett, Putah Creek.

In reporting dates of shipment, Messrs. Sackett remark that they do not make any single box shipments when the fruit has to be gathered here and there to fill the box. Their dates are for good-sized lots, and are as follows for 1887:

Pringle apricots	May 24.	Salway peaches	October 5.
Royal apricots	June 2.	Pomegranates	October 22.
Alexander peaches	June 16.	Bartlett pears	October 13.
Figs	June 21.		

FRUIT SHIPMENT FROM WINTERS.

In connection with the description of our frontispiece, the record of fruit shipments from Vacaville for several years is given. The following, from the *Winters Express*, gives the figures for the northern shipping point of the district:

1883	3,000,000 pounds.	1885	4,500,000 pounds.
1884	3,000,000 pounds.	1887 (to Sept. 1.)	4,000,000 pounds.

Winters claims the distinction of having for several years loaded the first full car of fruit for Chicago. This year, 1888, the first car started May 17th—two days earlier than ever before. Other cars followed on May 19th, 23d, 26th, 29th and 31st—making six cars in May for the East—twice as many as were ever sent in May before. The car of May 26th carried the first peaches—476 boxes of Briggs' Red May. These were grown in Pleasants' valley and Upper Vaca valley, a few being hauled from Upper Vaca valley to Winters, for shipment with the Pleasants' valley fruit.

DATES OF SHIPMENT FROM VACAVILLE.

J. W. Gates, Gates' Cañon:

Cherries	April 29.	Grapes	July 1.
Apricots	June 1.	Plums	July 9.
Peaches	June 15.	Nectarines	July 10.
Apples	June 24.	Oranges	November 16.
Figs.	June 28.	Japanese Persimmons .	November 13.

Concerning the season for each kind of fruit, Mr. Gates writes:

"The cherry season lasts about one month; apricots the same; peaches until December; apples till Christmas; oranges till January; persimmons about one month; figs until October; grapes last until frost kills them—sometimes as late as January; plums about three months, and nectarines about one month."

W. H. Buck, Vaca Valley.

1886.

KIND OF FRUIT.	FIRST SHIPMENT.	LAST SHIPMENT.	AVERAGE PRICE.
Royal apricots	June 24	July 13	3 cents.
Alexander peaches	June 16 . . . . .	. . . . .	. . . . .
Early Crawford peaches . .	July 19	August	5 cents.
Fontainbleau grapes . . .	July 20	August 15 . . . . .	. . . . .
Susquehanna peaches . . .	August 7	August 31	5½ cents.
Salway peaches	September 17	October 8	6 cents.
Muscat grapes . . . . .	. . . . .	November 23 . . . . .	. . . . .

F. B. McKevitt, Vaca Valley.

1886.

KIND OF FRUIT.	FIRST SHIPMENT.	LAST SHIPMENT.
Royal apricots	June 17	July 14.
Crawford peaches	July 20	August 5.
Susquehanna peaches	August 4	September 2.
Salway peaches	September 20	October 3.

In 1887 Mr. McKevitt's first fruit shipment was June 16th, and his last November 8th. The duration of the Salway peach in the district is shown in the fact that Mr. McKevitt shipped fifty-four boxes of Salways September 15th, and four boxes on November 8th.

D. J. Parmele, on hills east of Vaca Valley.

Alexander peaches	May 31.
Fontainbleau grapes	June 18.

Robinson Brothers, on hills east of Vaca Valley.

Robinson Brothers' statement has information which is difficult to tabulate, and it is given in the form in which it was furnished:

Cherries.—April 5th to May 20th; net \$450 per acre for three years; trees eight to ten years old.

Apricots.—June 6th to July 1st; net 45c. per box.

Plums, Royal Hâtive.—June 20th to July; sold at 7½c. per pound in ten-pound boxes; other plums to August 2d.

Nectarines, Lord Napier.—Soon after July 4th; to August 2d for others; in 1886 they sold for from 75c. to \$1.00 per peach-box.

Bartlett pears.—Sold September 10th.

Peaches, Alexander.—June 4th to 13th, at 4c. per pound, delivered at Vacaville; crates furnished. Briggs' May and Hale's Early, June 10th to 21st; from 3c. to 4c. per pound; crates furnished.

Strawberries.—June 27th to July 5th; average, 70c. per box in San Francisco. Orange Cling sold for from 75c. to \$1.00 in San Francisco.

Grapes, Fontainbleau.—July 8th to 19th; sold in twenty-pound crates; delivered in Vacaville at 75c. per crate; crates furnished.

Rose Peru.—July 28th to September 10th; sold same as above, at 50c. per crate.

Tokay.—August 18th to September 10th, at 75c. per peach-box in San Francisco, and at 60c. per crate at Vacaville.

Muscat.—August 3d to October 1st, at 50c. per crate at Vacaville; also 40c. to 60c. per box in San Francisco.

L. W. Buck, Upper Vaca Valley.

1883.

KIND OF FRUIT.	FIRST SHIPMENT.	LAST SHIPMENT.	HIGHEST PRICE.	AVERAGE PRICE.
Cherries	April 30	June 6	20c. $\text{\textcircled{P}}$ lb.	15c. $\text{\textcircled{P}}$ lb.
Apricots	May 17	July 12	25c. " . . .	3½c. " . . .
Peaches	May 30	Oct. 9	20c. " . . .	4c. " . . .
Plums	June 11	Aug. 31	6c. " . . .	3c. " . . .
Grapes	July 19	Dec. 10 . . . .	. . . . .	4c. " . . .
Pears	June 5	Sept. 28 . . . .	. . . . .	4c. " . . .

1885.

KIND OF FRUIT.	FIRST SHIPMENT.	LAST SHIPMENT.	HIGHEST PRICE.	AVERAGE PRICE.
Cherries	April 20	May 16 . . . .	. . . . .	9c. $\text{\textcircled{P}}$ lb.
Apricots	May 4	June 23 . . . .	. . . . .	2½c. " . . .
Peaches	May 19	Sept. 23 . . . .	. . . . .	3c. " . . .
Plums	May 19	Aug. 5 . . . .	. . . . .	2c. " . . .
Grapes	June 1	Nov. 5 . . . .	. . . . .	3½c. " . . .
Pears	July 7	Nov. 18 . . . .	. . . . .	5c. " . . .

For the foregoing interesting statement we are indebted to F. M. Buck. He assures us that the two seasons taken are fairly representative as to times of ripening. The latest shipment of fruit ever made from the farm was a lot of grapes, on December 22, 1886.

W. Cantelow, Upper Vaca Valley.

Earliest shipments of 1886, peaches, May 30th; apricots, May 17th; grapes, July 5th; figs, June 21st.

G. W. Gibbs, Gibson Cañon.

KIND OF FRUIT.	FIRST SHIPMENT.		LAST SHIPMENT.	
Purple Guigne cherries	April 8.	Sold \$1.00 $\frac{2}{3}$ lb.	April 30.	Sold 35c. $\frac{2}{3}$ lb.
Tartarian cherries	April 23.	" 35 "	May 20.	" 15c. "
Briggs' peaches	May 20.	" 12 $\frac{1}{2}$ "	May 28.	" 7c. "
Bartlett pears	"	" 3 "	"	"
Winter Nelis	"	"	"	2 $\frac{1}{2}$ c. "
Pringle apricots	May 7.	" 7 "	June 4.	" 4c. "
Royal apricots	May 20.	" 8 "	July 9.	" 3c. "
Cherry plums	May 22.	" 5 "	"	"
Fontainebleau grapes	July 6.	" 9 "	July 20.	" 6c. "

George H. Peabody, Bassford's Cañon.

Cherries, April 24th, twenty pounds sold at \$1.00 per pound; Black Tartarians, May 3d, sold at 50c. per pound. Early cherries sell along at about \$3.50 to \$2.50 per ten-pound box; Black Tartarians seldom get below \$1.50 per box.

J. Nathan Rogers, on hill east of Upper Vaca Valley.

Apricots, May 1st; apples, May 21st; grapes, June 27th; plums, June 17th.

W. W. Smith, Vaca Valley.

Cherries, March 31, 1886; peaches, November 20, 1886; third crop Rose of Peru grapes, November 28, 1887.

J. M. Bassford, Jr., Bassford's Cañon.

Cherries, April 1st, sold at \$1.50 per pound.

The fine packing-houses of the district, the vehicles used for hauling the fruit to shipping points, and other matters relating to the commercial features of the industry, have been described in connection with the plates, and need not be discussed further.

A good part of the fruit crop is sold in advance of ripening, to buyers for California canneries and for houses in the overland trade. The dried fruit product is also largely covered by contracts with dealers and shippers. Some of the largest producers, however, make shipments on their own account through the California Fruit Union; and a fraction of the product, both green and dried, is sold through the commission houses of San Francisco.

During the present year a number of enterprising fruit growers of the district have organized the "Vacaville Fruit Company," with the general object of promoting the interests of the stockholders as growers and shippers of fruit. The names of those interested in the company and the purposes for which they are associated may be learned from the announcement on an advertising page at the end of this work. Such organizations when well managed do very effective work in opening new markets, and securing order and more profitable distribution of fruit.

CHAPTER V.

Fruit Drying and Canning.

SO many references have been made to the importance of the dried-fruit interest of the district and to the methods of drying, as shown on the plates in Part I of this work, that little remains to be said, unless it be to emphasize the exceptional natural advantages of the region for open-air drying, and the fruits which thus far have paid best in dried form.

The year 1887 was notable in the fruit-drying experience of the district. The apricot and peach crops were very large, and it was impossible to dispose of all the fruit in a raw state. Previous experience had demonstrated that a first-class dried fruit was easily and profitably produced, and nearly all growers had recourse to drying to save their crops. In August, when the peach season was at its height, the district was invaded by an army of buyers, and dried fruit was contracted for at better prices than the growers had anticipated. Carefully prepared "sun-dried" fruit was taken at the same price as the "evaporated"—prepared by the use of a machine. The failure of the fruit crops in the Eastern States gave the opportunity to dispose of a vast amount of California fruit; and the Vacaville district was one of the chief sources of supply. So excellent was the product, that some producers contracted for several years in advance at remunerative prices. Though, as has been said, the dried-fruit interest of the district has long been important, it was not until the experience of 1887 that it assumed such notable prominence. Growers are now disposed to look upon fruit drying as their chief reliance; and in this they are wise and safe, for it frees them from the necessity of sacrificing their product at canners' or shippers' prices; because, unless a certain figure is offered, the fruit will be spread in the sun and thus given profitable and imperishable form.

There are a few artificial driers or evaporators used, but chief reliance is placed upon sunshine. The district is free from the fogs and dews of the coast region; and with the constant sun and dry air of the interior the fruit is bright and beautiful, high-flavored and delicious. All that needs to be done is to subject the fresh fruit for a short time to sulphur fumes, which prevents oxidation. This is, of course, very different from the sulphur-bleaching which is sometimes practiced on discolored dried fruit, because the fresh fruit does not absorb sulphur like dried, and the amount applied is not enough to bleach with. When fruit is sulphured at the right time and in a sparing manner, there is no resulting injury.

FAVORITE VARIETIES FOR CANNING AND DRYING.

The following table gives the varieties of fruit which several growers have found most profitable for drying or in greatest request by buyers for the canneries :

GROWER.	BEST FRUIT-FOR-DRYING.	FAVORITE FRUITS WITH THE CANNERS.
J. M. Bassford, Jr. . .	Royal apricots, Muir and Susquehanna peaches.	Royal apricots, Bartlett pears, peaches.
J. M. Bassford, Sr. . .	Muir, Susquehanna, Foster, Salway peaches.	Orange and McKevitt's Cling peaches.
F. M. Buck	Royal apricots, Old Mixon, Early Crawford, Susquehanna and Salway peaches.	Early Crawford, Susquehanna, Salway and White Cling peaches.
W. H. Buck	Royal apricots, Early Crawford, Susquehanna, Salway peaches, Muscat grapes, Late White nectarines.	Royal apricots, Susquehanna, Salway, Orange Cling, White Cling peaches, Bartlett pears, Muscat grapes.
W. P. Buckingham . .	Triumph apricots, Susquehanna peaches, Bartlett pears and Muscat grapes.	Same as for drying, adding Orange Cling peaches.
W. J. Dobbins	Salway peaches yield best of the varieties I am growing.	Early Crawford, Foster, Susquehanna and different clings.
A. M. Esquivel	Apricots, peaches, prunes and grapes.	Yellow peaches.
O. Garlich	Royal apricots, Early Crawford, Foster, Susquehanna, Salway and Orange Cling peaches, nectarines, prunes, figs and Muscat grapes.	Cherries, apricots, peaches, pears, nectarines and Muscat grapes.
J. W. Gates	Royal apricots, Muir peaches, White nectarines, Muscat grapes.	All these also sell well to canners; also Grover Cleveland peaches and Bartlett pears.
A. C. Hawkins	Peaches, apricots, nectarines and Muscat grapes.	Royal apricots, Crawford, Susquehanna and McKevitt's Cling peaches.
G. W. Hincley	Apricots, peaches and figs.	Apricots and peaches.
A. McKevitt	Apricots, and all peaches after Hale's Early.	Apricots, yellow free and choice White Cling peaches.
F. B. McKevitt	Apricots, all except early peaches, but yellow freestone preferred.	Apricots, yellow free and White Cling peaches.
J. F. McMurtry	Apricots and peaches.	Royal apricots, Crawford and Orange Cling peaches.
George H. Peabody . .	Susquehanna, Muir and Salway peaches, White nectarines, Muscat and Sultana grapes.	Salway peaches, Bartlett pears, Washington plums.
J. M. Pleasants	Royal apricots and Muir peaches.	Late Crawford and Muir peaches.
W. J. Pleasants	Muir peach is best; Lovell, Late Crawford and others.	Muir peaches.
Sears & Clarke	Muir, Susquehanna and Salway peaches.	Lemon, Orange-Cling and Salway peaches.
W. W. Smith	Apricots, peaches, prunes, grapes and figs.	Apricots, yellow peaches and Bartlett pears.

Citing experience of different growers involves, of course, considerable repetition; but in such a case the repetition is of the greatest possible value as indicating the agreement of experience among a number of leading growers. A fruit planter cannot have a safer guide than general experience.

FRUIT CANNING.

There is so far no large cannery in operation in the district, though it is likely that there may be in the future. Several parties have home or orchard canneries; among them are Messrs. Gates, Bassford and Blake in Vaca valley and Messrs. Pleasants, Austin and Thissell of Pleasants' valley. The writer has used Mr. Thissell's fruit in his family for several years and never saw anything in a can to surpass it. Dr. Austin, as we have already stated, has won wide honors for his product. No doubt the other orchard canners do well also. The cannery operating near the orchard on fully ripened fruit has advantages in securing quality which cannot otherwise be had. We have faith that there may be much fruit profitably disposed of on family orders by those who operate small home-canning concerns. This would seem to be a business especially adapted to those who have small orchards of choice fruit and who desire to make profitable use of their time. The large orchardist usually has no time to spare for such efforts.

Though there is no large cannery in the district, there is much fruit sold to distant canneries; and they seek the Vacaville fruit both because of its excellence for canning and because it ripens early; and by buying it the cannery can work for a long season. Thus canneries at San José, eighty miles away, sometimes work on Vacaville fruit until the Santa Clara district fruit ripens. The nearest cannery to Vacaville is the Carquinez Packing Co. at Benicia; and a number of growers have contracted their crops for several years to this concern at the prices annexed: apricots, not more than thirteen to the pound, $1\frac{7}{8}$ cents per pound; peaches, not less than $2\frac{1}{4}$ inches in diameter, $2\frac{3}{8}$ cents per pound; Bartlett pears, three to the pound, $2\frac{1}{8}$ cents per pound. These prices are for fruit delivered on the cars at Vacaville in boxes to be returned.



CHAPTER VI.

Vegetable Growing.

ALLUSION has already been made to the history of the early vegetable interest of the district and to the practice of growing vegetables between orchard trees during their early years. The natural conditions which are cited as making this practice admissible, viz.: abundance of rainfall and richness of soil, are also, of course, of great importance in the growth of vegetables as a sole crop. There is another condition which prevails on the hill slopes between Vaca valley and the Sacramento valley, and that is the underlying porous sandstone which is believed to produce a warm condition of the soil and favors the early and rapid growth of esculents. Whatever may be the theory, the fact is that the conditions are such on these slopes that all exposures except those directly northward favor the growth of vegetables, the earliest returns being naturally secured, however, on well-protected southerly exposures. Except along Putah creek the growth of vegetables is almost wholly confined to elevated situations.

In early days, and even in more recent times, there have been very large returns secured when the character of the season favored the plant, and a very early crop was gathered. It would make an interesting chapter to set forth such facts, but we have not sufficient data. The fruit interest has during recent years so overshadowed the vegetable product that comparatively little is now heard of vegetables in current conversation, even though as Mr. G. W. Gibbs reports: "Vegetables planted on early foothill land often pay better than the same number of acres in fruit." Vegetables are, however, very often subject to the influence of peculiar seasons, the markets are characterized by very wide fluctuations, and the amount of attention and labor required to bring forward a vegetable crop in good shape is considerable. For these and perhaps other reasons as well, the vegetable interest is declining before the advance in fruit production.

CHAPTER VII.

Labor Supply.

THE available labor supply is a most important factor in the production of fruit and fruit products. When the lands of the district were given to live-stock a few vaqueros were all that were needed. During the wheat-growing era a few hundred "blanket-carriers" came in during harvesting and answered the demand. These were men who carried a roll of blankets slung over their shoulders and slept outdoors at night wherever they happened to get work through the day, perhaps tramping the whole State over in the course of the seasons and crops of a single year. Since the vast area of orchard and vineyard has become productive, the requirements of the district reach into the thousands. A few years ago any number of Chinamen could be had on a day's notice; but since the enforcement of the restriction laws Chinamen have become scarce, and it is now a problem whence an adequate supply of labor is to be obtained. Vacaville fruit growers, like all other fruit producers of California, have found the Chinamen most efficient laborers in the orchard and vineyard—skillful, obedient and trustworthy. They appreciate, however, the superiority and greater desirability of white laborers who will make homes in the district, and conduct themselves as good citizens. The trouble has been that this preference has had to rest largely on theoretical grounds, because such a proportion of the white labor available has been untrustworthy and inefficient. There is now fortunately a change taking place in this respect. More trustworthy white men are finding permanent employment and making homes in the district; and each year a better supply of transient white help is coming in during the fruit harvest. It is believed that this most fortunate tendency may continue and increase, until a good and constant supply will be available.

During the summer of 1887 there was a greater amount of family labor employed than ever before, and there will be still more during the summer of 1888. By family labor we mean the coming into the orchards of families from near and distant homes, making their temporary abode there during the summer.

and both parents and children doing "piece work" in splitting and spreading apricots, and in paring, pitting and spreading peaches for drying. In this way the family secures an income which cuts quite a figure in the year's receipts. The climate is such that very slight shelter is required during the summer, and dwelling in tents is very comfortable. Cot beds and hammocks for sleeping out-of-doors among the trees and vines are a common sight.

There will be each year a greater demand for such transient workers; and no doubt settlers who have their own places but partly improved will come many miles by wagon and train to secure their harvest of earnings to help along until their own trees come into profitable bearing and require all their time. It is certainly desirable for those who are establishing homes with small capital to choose situations where such opportunities for profitable summer labor can be enjoyed.

There is also a growing demand for laborers who desire continuous employment. There is almost always something to be done on a fruit farm in California, where, excepting during actual rainstorms, the climate favors outdoor labor the year round. Laborers who are faithful, and free from bad habits, can soon secure means for establishing themselves on land of their own, if they will lay by their earnings. This result can be attained more quickly in California than in any other part of the world probably, because of the high wages paid and because the climate makes such slight demands in the way of clothing or doctors' bills, and insures continuous health and strength, which are the laborer's capital. In order to present these facts in the most direct manner, we have secured from a number of the orchardists of the district statements of the wages paid and the demand for labor of different kinds. This information is presented in condensed form as follows:

W. P. Buckingham.—Wages are \$1 per day and board for whites; Chinamen board themselves; during the rush of the season \$1.25 has sometimes to be paid.

Capt. R. H. Chinn.—I shall have this season work enough in packing, drying and shipping, to give employment to thirty or forty men, and shall work six or seven men every day in the year. There is no place in the State more desirable for the camping of laborers—no insects nor dews, but a dry atmosphere all night. There will be plenty of work for all who will come, at remunerative prices.

O. Garlichs.—Wages for farm hands are \$25 per month; chances for the purchase of small ranches are good.

G. W. Gibbs.—Opportunities for purchasing small farms are good; generally there are a few to rent.

L. J. Harbison.—White help can be had in the orchard for \$1 per day and board, but the tendency is upward. House servants get from \$16 to \$25 per month.

A. McKevitt.—Farm help get from \$20 to \$30 per month and board. House servants are in great demand and find steady employment at from \$20 to \$30 per month. Some of the most desirable land can be purchased in small tracts.

Sears & Clarke.—House help is scarce, and good girls command from \$20 to \$25 per month with steady employment. There will also be thousands of additional hands required within the next two or three years, to handle our fruit. Girls and women can do a great deal of the work.

It should be encouraging to the laborer to know that some of the most prosperous orchard owners of the district were once wage-earners in the vicinity of the broad acres they now own. There is a chance for others who will be equally diligent, faithful and frugal. The one dollar a day and board, mentioned as the wages for men, has been about the standard rate the year round, little or no increase being made for the summer months. But, with the increase of fruit drying, for which the district is especially suited, those who come only for the harvest season will be likely to command higher wages, as in the Eastern States during haying time. Either men or women with nimble fingers can earn two dollars a day at cutting fruit by the 100 pounds. One young woman is known to have made two dollars and a half in a single half-day, and a ten-year-old boy to average a dollar a day. This is emphatically the country where large families of children are wanted, if their parents will train them to obedience and steady work when there is work to do.

But families of undisciplined hoodlums are avoided by all fruit growers, as they spoil more fruit and hinder the earnest workers more than they are worth. School children from the cities are totally worthless unless in charge of some parent or teacher whom they are accustomed to obey.

But we believe there is a fine opportunity not only in this but in other fruit districts for families of moderate means to have an annual outing, keeping the children busy during vacation not only without expense, but with an actual profit.

Families of willing workers would be welcomed in any fruit-drying district, and opportunity offered for the purchase of a garden spot on the hillsides on easy terms for a "country residence" for the summer, such as only the rich can usually afford. Many a family in this district has spent its first years, both winter and summer, in a shanty not costing \$100; and many more can do so for the summer months, with great advantage to the health and morals of their growing children.



CHAPTER VIII.

Soils and Water Supply.

ALLUSION has already been made in several places to the general depth and fertility of the soils of the district. It may be important to refer to this matter more specifically, and we introduce an abridged quotation from a sketch of the soils and their origin, prepared by W. W. Fitch, at one time County Surveyor of Solano county :

The great overlying mass of rock in the hilly portions of the county is a massive, silicious sandstone, in many localities changing to argillaceous sand-rock, with the divisional planes or joints less defined. The erosion of this rock sends down to the benches and valleys large quantities of débris, which, mingled with the harder, clayey deposits, makes a light, loose and warm soil. On the lower slopes, in several localities, are found extensive areas of alluvial sandstone, formed by beds of sand, cemented by iron and carbonate of lime. This soft rock seems to foster the growth both of native and cultivated trees. Below the massive sandstone first named, beds of clay slate alternate with slaty sandstone, as seen in the ravines on the slopes of Vaca mountains. Underlying the above are vast beds of volcanic tufa, composed of cement, volcanic earth, light and porous, containing a large percentage of magnesia, giving the rock a light gray color. It hardens by exposure, is a perfect firestone, and of sufficient durability for building purposes, as has been proved by the erection of many structures in the county.

The lowest formation necessary to mention is composed of alternating strata of sandstone, shale, slaty sandstone and coal. Subjacent to the foregoing is a bed of hard blue clay.

The soil upon the hills is generally a light sandy loam formed by the disintegration of the sandstone bedrock which underlies the whole region, mixed in places with decayed basaltic rocks, which radiate in the defined lines of ancient lava streams from Putnam peak.

The soil of the valleys is an alluvial deposit from the hills and composed in some places to an enormous depth, of similar materials.

The depth of the soil has been disclosed by well-boring and by the deepening of creek beds. There is, however, within short distances, a wide variation in the character of the soil, as is characteristic of California soils generally. The variation is in depth, in fertility, in ease of tillage, and also in adaptation to the requirements of different kinds of fruit trees.

Actual observations on the depth and fertility of soils are reported to us as follows :

J. M. Bassford, Jr., Bassford's cañon.—The soil is good to a depth of twenty feet ; have never dug deeper.

W. P. Buckingham, Laguna valley.—I have bored twenty feet without striking hardpan, and do not know how much deeper the soil is. It is a black loam with some sand intermixed.

W. P. Cantelow, hillside east of upper Vaca valley.—Our soil is a sandy loam.

John Dickson, Laguna valley.—Our soil is twenty-six feet deep down to quicksand and water.

A. M. Esquivel, hills east of upper Vaca valley.—Our soil varies from ten to twenty feet in depth.

L. M. Frick, hillside in Gates' cañon.—We have from one to five feet of sandy loam over a gravelly subsoil.

O. Garlich, hillside east of Vaca valley.—Our soil is from ten to thirty feet in depth.

James W. Gates, near mouth of Gates' cañon.—We have sandy loam from twenty to thirty feet deep.

G. W. Gibbs, foothills north of Vacaville.—Black sandy loam, one to six feet deep.

L. J. Harbison, two miles east of Vacaville.—Loam soil of unknown depth.

A. C. Hawkins, between Vacaville and Elmira.—Sandy loam, ten to twenty feet deep.

G. W. Hinclay, hilltop in Pleasants' valley.—My soil is mostly sandy with soft sand-rock underneath.

F. B. McKeivitt, Vaca valley.—Clay loam ; the same at depth of sixty-two feet as at surface. Have not gone beyond this depth.

J. T. McMurtry, hillside east of Vaca valley.—Loam, fifteen to twenty-five feet in depth.

G. H. Peabody, Bassford's cañon.—Sandy loam, ten to thirty feet deep.

D. J. Parmele, hills east of Vaca valley.—Sandy soil, one to four feet deep.

Juan Peña, Laguna valley.—Good soil, one to twenty feet deep.

J. M. Pleasants, Pleasants' valley.—Our soil is from one to twenty feet deep.

W. J. Pleasants, Pleasants' valley.—Soil, sandy deposits.

Sarah Roberts, Elmira.—Soil in some places eight feet deep.

Sears & Clarke, Vaca valley.—Clay and sandy loam, ten to thirty feet in depth.

W. W. Smith, Vaca valley.—Decomposed vegetable mold, twenty-five feet deep.

D. K. Swim, south of Laguna valley.—Soil from five to twenty feet deep.

F. M. Wertner, hillside east of Pleasants' valley.—The soil is brown sandy loam, three to ten feet deep.

WATER SUPPLY.

The generous rainfall of the district will be shown by statistics in the chapter on climate. Taking this abundant precipitation in connection with the topography, it might be well anticipated that water in the valley could be obtained in adequate quantities by very shallow wells. Such is the fact. Wells are so easily and cheaply made by boring through the alluvial soil, that every

large farm has several, located as suits convenience; for it is cheaper to sink a new well than to carry or haul water any distance. Hundreds of wells in Vaca valley furnish a good supply of water at a depth of from twenty to forty feet; and wells are bored, tubed and a pump put in for thirty-five dollars, almost anywhere in the valley soils.

On the hillsides there are many springs which are utilized as a water supply for domestic purposes, which is about the only use for water, as the abundant rainfall and the soil, adapted to retain water if given thorough surface cultivation, render irrigation altogether needless, unless it be for flower gardens and berry patches. At greater elevations on the hills, one is far less sure of obtaining water by wells, though good wells are frequently secured, but usually at much greater depth than in the valley.

DRAINAGE.

The copious rainfall sometimes makes artificial drainage necessary on the lower lands of the district; and during recent years considerable quantities of drain tile have been put in. The investment is found to yield immediate returns in the health and vigor of the trees and in bringing the soil into proper working condition during the winter and early spring; and while parts of the State are worrying over the irrigation problem, carload after carload of drain tile is being brought to Vacaville to dispose of surplus water in the soil.



CHAPTER IX.

The Climate of the Vacaville District.

CLIMATE is one of the chief natural resources of the Vacaville district and undoubtedly one of the chief factors in the notable industrial success which has been attained in the region. From a horticultural point of view, the district has an ideal climate comprising a collection of desirable features which cannot perhaps be found in combination elsewhere. These features are :

First. A very heavy rainfall, which insures a splendid growth of tree and vine and enables both to nurture a great weight of fruit, to ripen it in grand size and richness and at the same time to prepare for succeeding crops.

Second. A range of temperature which prevents injury to tree and vine from either excessive heat or excessive cold, and secures a growing season of exceptional length with heat enough to fully develop sugar and aroma in the fruit, and, when picked, to preserve it by the process of sun drying, with a wonderfully close approximation to natural color and flavor.

Third. Freedom from cloud and fog in the summer, which hastens the fruit to maturity, hastens its drying, and fosters its retention of natural color.

Fourth. Freedom from objectionable winds, which reduce temperature or endanger the fruit by violence or desiccating influences.

Certainly the possession of these characteristics constitutes an ideal climate for horticulture. Fortunately the features which so advantage the fruit are also conservative and promotive of human life and health, and thus singularly fit the region both for residence and industry. Concerning the claims of the district as exceptionally healthful and delightful for residence, we are fortunate in being able to present a statement from a highly esteemed resident physician, J. Warren Stitt, M. D., which we will introduce after describing briefly the chief general climatic features of the region.

RAINFALL.

No more forcible expression of the desirability of the local climate in the matter of rainfall can be made than the statistics themselves.

Rainfall at Vacaville.—The following table of rainfall was furnished by Mr. A. V. Stevenson, and shows a record of rainfall by months, years and seasons, from 1880 to date:

YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for Year.	Season.	Total for Season.
1880...	3.48	2.28	2.73	8.26	7.58	1.78	none	none	none	none	.07	21.25	47.43	1879-80	36.81
1881...	15.61	4.58	1.13	2.36	none	none	none	none	none	.28	1.93	5.36	31.25	1880-81	45.00
1882...	2.76	3.38	4.17	2.37	.19	none	none	none	1.10	3.11	3.77	1.15	22.00	1881-82	20.44
1883...	2.45	2.11	6.26	2.03	5.63	none	none	none	none	2.24	.49	1.63	22.84	1882-83	27.61
1884...	6.02	7.19	11.45	7.48	.24	none	none	none	.41	1.20	none	16.18	50.17	1883-84	36.74
1885...	1.89	.28	.28	1.54	none	none	none	none	none	.30	15.98	5.68	25.95	1884-85	21.78
1886...	8.74	.17	1.32	4.84	.05	none	none	none	none	.27	.14	2.26	17.79	1885-86	37.08
1887...	1.34	9.40	1.06	2.65	none	none	none	none	.16	none	1.01	5.62	21.24	1886-87	17.12
1888...	6.34	.45	4.21	.08	.41	.....	.....	.....	.....	.....	.....	.....	.....	1887-88	.28
Totals	48.63	29.84	32.61	31.61	14.10	1.78	none	none	1.67	7.40	23.39	59.13	238.67	.....	242.58
Av'g's	5.403	3.316	3.623	3.512	1.566	.222	none	none	.209	.925	2.924	7.354	29.834	.....	30.322

Rainfall in Pleasants' Valley.—The following record is from measurements by E. R. Thurber, and shows the rainfall by months and seasons, at a point nine miles from Vacaville, in the earliest part of the district:

SEASON.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	TOTAL.
1878-79.....	.5	1.6	.2	.6	4.4	6.8	12.0	1.5	1.4	.3	none	none	29.3
1879-80.....	none	.4	2.9	8.0	3.5	1.7	1.6	12.4	1.0	none	none	none	31.5
1880-81.....	none	none	none	20.0	12.4	1.0	.6	1.0	.1	none	none	none	35.1
1881-82.....	1.1	.9	1.3	3.7	8.3	3.4	3.5	1.2	none	.1	none	none	23.5
1882-83.....	.5	2.3	3.4	1.3	3.9	2.2	7.9	1.7	6.5	none	none	none	29.2
1883-84.....	.5	1.3	.3	.7	5.4	7.2	12.0	6.2	.1	none	none	none	33.3
1884-85.....	.4	1.3	none	15.1	2.0	.2	.4	1.6	none	none	none	none	21.0
1885-86.....	none	.5	14.5	6.4	13.2	.4	1.6	6.3	.1	none	none	none	43.0
1886-87.....	none	.7	.3	2.9	1.7	13.4	1.2	3.2	.5	none	none	none	23.9
1887-88.....	.3	none	1.5	7.2	6.0	1.1	5.4	.2	1.1	.....	.....	.....	22.8
Totals.....	3.3	9.0	24.4	65.9	60.8	37.4	46.2	35.3	10.8	.4	none	none	292.6
Averages.	.3	.9	2.4	6.5	6.0	3.7	4.6	3.5	1.0	.04	none	none	29.2

Rainfall at Winters.—The following table is compiled from the record kept by G. A. Weighe, railroad station agent at Winters:

SEASON.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	TOTALS.
1880-81.....	none	none	.06	18.43	12.61	2.72	1.01	1.38	.47	none	none	none	36.68
1881-82.....	none	.12	1.45	3.86	1.66	3.92	4.07	1.00	none	none	none	none	16.08
1882-83.....	.70	1.43	3.04	.93	2.07	none	7.14	5.27	none	none	none	none	20.58
1883-84.....	.59	1.07	.12	.95	5.39	5.50	11.07	5.28	none	2.22	none	none	32.19
1884-85.....	1.58	none	11.42	1.70	.05	.27	1.48	none	none	none	none	none	16.50
1885-86.....	none	.55	14.59	7.32	12.31	.06	2.17	3.92	none	none	none	none	40.92
1886-87.....	none	.32	none	2.29	1.39	11.44	4.58	none	none	none	none	none	20.02
1887-88.....	none	none	.93	6.77	4.67	1.96	4.88	.11	.30	.....	.....	.....	19.62
Totals.....	1.29	5.07	20.19	51.97	41.80	25.65	35.19	18.44	.77	2.22	none	none	202.59
Averages.	.15	.64	2.77	6.43	5.22	3.20	4.39	2.30	.09	.27	none	none	25.32

Normal or Average Rainfall at Various Points.

To facilitate comparison, the average rainfall at the three points in the Vacaville district is given below, together with the average rainfall at adjacent points and in some other leading fruit regions. The figures aside from those credited above are taken from the report of Sergeant J. A. Barwick, observer of the U. S. Signal Service at Sacramento, and Meteorologist of the California State Agricultural Society :

Vacaville	30.32	Marysville.	16.32
Pleasants' Valley	29.20	Auburn	32.40
Winters.	25.32	San Jose	15.35
Elmira.	26.15	Livermore.	13.69
Suisun	18.00	Napa	23.25
Woodland	16.01	Fresno.	11.39
Davisville	16.55	Los Angeles	17.51
Sacramento	21.75	Santa Barbara.	17.55
Colusa.	10.64	San Diego	10.79
Oakland.	20.57	San Francisco	23.95

TEMPERATURE.

Unfortunately there is not sufficient data to demonstrate how far the early maturity of fruit in the district is due to high winter and spring temperature. No doubt this is a factor; but the temperature records kept in the earlier portion of the district do not include observations at the hours generally accepted elsewhere, and it is therefore impossible to accurately measure the effect of seasonal temperatures as compared with those of other localities. It is possible of course to deduce, from the valuable record kept by Mr. Thurber of Pleasants' valley, data which would serve a skilled meteorologist in arriving at the facts; and it will be an interesting effort which we commend to such a qualified person. The popular conclusion is that there rules a uniformly high spring temperature which hurries the fruit forward to maturity, while the same fruits in other localities, though they may bloom as early, are retarded in their growth and development by occasional depressions in temperature and by more or less cloudy skies. Thus the fruit lags along its course and reaches maturity later. This point is in part theoretical, because, as has been intimated, it has not been demonstrated. It has been pointed out, however, that while the great interior valleys show everywhere a far higher summer temperature, and hundreds of places in California a higher average temperature, the Vacaville district has won its fame as an early region by the most practical demonstration, viz.: sending to market the earliest fruits and vegetables almost ever since there was a market in California to receive them. All that the scientific meteorologist has to do is to account for this fact.

The following table and notes furnish full data for securing a good understanding of the climate of Pleasants' valley so far as temperature goes; and each reader can follow the record for himself. The most obvious conclusion will be the prevalence of desirable temperature and the uniformity of the record.

As will be noted, the weather of January, 1888, was the most severe experienced since records have been kept in the district, and the same was true all over the state, from Oregon to Mexico; nor does the memory of the oldest inhabitant recall a similar visitation.

THE WINDS.

It is beyond question that the inclosing hills and mountains which have been frequently mentioned in our descriptions of the plates in Part I shelter the district from objectionable winds, both the chilling, fog-drawing winds of the coast and the desiccating "northers" of the great valley. The brunt of these great air currents is broken by the hill and mountain barriers, and only gentle breezes enter the more sheltered portions of the district.

Local authorities comment very emphatically upon certain desirable movements of the air as contributing to the comparative immunity of early fruits and vegetables from killing frosts. One writer says: "The spring climate of this district is *sui generis*. Owing to the elevation and the peculiar configuration of the hills, gentle and continuous air currents are produced which ward off frosts."

Another writer, alluding especially to the Winters section of the district, says: "Our coast winds come over and through the mountains to the west of Winters, and reach us entirely bereft of all their chilly dampness and much of their force; while in the forenoon we have light, dry and warm north breezes. The heat, out on the vast Sacramento plains, expands and rises, and when the southerly coast winds come up as an undercurrent, this warm air is forced out and up along the foothills and lateral mountain valleys, thus making the nights warm, when compared with other fruit sections near the coast, where the winds are stronger and damper and the nights absolutely chilly. In fact, the Winters fruit belt seems to be where the dry northern winds and the moist southwest coast winds meet, thus giving us the peculiar climatic conditions so favorable to the production of the earliest fruits."

Still another writer reviews local conditions as follows:

The summer climate here is a happy medium between the cold winds of San Francisco and the hot suns of Sacramento. The trade winds, filtered through the cañons of the Coast Range, and broken and warmed in their passage, blow nineteen days out of twenty in the summer time, and produce a climate healthful, bracing and agreeable. When these winds do not blow, and the air currents set from the north, or hot interior, the days are marked as our days of disagreeably high temperature, when the thermometer sometimes reaches 108° or 110° in the shade. Such times are rare and of short duration. Fogs are of rare occurrence in the winter, and are never known at any other time, the high wall of the Coast Range effectually barring them out, though often for days in succession they roll up from the coast to the very summit, and are there dissolved in the warm air rising up the eastern slope of the range.

Such are the main features of the climate of the Vacaville district. It should be remarked in addition, for the benefit of distant readers, that the high degree of temperature mentioned, 110° Fahr., does not carry with it the depressing and prostrating effects of high temperatures in moister summer climates. One can endure 110° much more comfortably than he can 90° at the East, and have the additional assurance that sunstroke is almost unknown in California, and so far as we can learn has never been known in the Vacaville district. The stimulating and sustaining effect of dry air in the presence of high temperature often leads the newcomer to wonder whether the thermometer can be accurate; and the constant evaporation of moisture from the skin kept up by the dry "northers" in the hottest days, prevents the suffocating effect of the moist and sultry hot weather of the Atlantic coast.

VACAVILLE DISTRICT CLIMATE AND HEALTH.

We present now the very interesting statement concerning the climate of the district as related to the health of the community, to which allusion has been made. It was prepared expressly for this work by Dr. J. Warren Stitt, a graduate of Bellevue Hospital Medical College, N. Y. Dr. Stitt himself came to Vacaville on account of his health, which forced him to leave a lucrative practice in San Francisco and seek a dryer and warmer climate. His experience is stated as follows :

Your request for a report upon the healthfulness of this locality shall be answered by briefly stating facts bearing upon the question as I have found them during a practice of five years.

My books will show that I have not in these years treated one case of sickness that was due to a local cause—either climatic or paludal. Quinine is never necessary except for its tonic effect.

Diseases that are most common in other parts of America seem to be very uncommon here. I have seen only three cases of pneumonia, two of diphtheria, no rheumatism, no consumption except imported cases ; none of the most frequent of children's diseases. The fact is, medical practice here is almost entirely composed of that class of diseases which are due to the indiscretions of individuals.

The annual death rate in this State is *eighteen* to the thousand of population. The death rate in Vacaville township (including those cases from other places that were only brought here to die) is only *seven and three-fifths*. To one unacquainted with the facts this may seem a California story, but my books will prove it.

To give the causes for this immunity from disease would lead us into a discussion of climate, soil, etc., which would carry me beyond my allotted space. We certainly have those things most essential to health, viz.: Sunshine, good water, good drainage, and a favorable altitude—Vacaville is 159 feet above the sea, while Elmira, only $4\frac{1}{2}$ miles away, is seventy-nine. Yet Elmira is the highest point on the railroad between San Francisco and Sacramento. On the west side of our valley is a spur of the Coast Range of mountains, the highest point of which is 3,165 feet. This enables one to locate at such an altitude as is found most desirable.

In these hills are found many springs of mineral water in which exist all those medicinal qualities so highly beneficial to certain classes of diseases. They need only to be tried to convince one that they are as good as many more noted ones.

Our mean winter temperature is 52° , and mean of summer is 70° . The lowest recorded winter temperature is 21° , which is said to be higher than at any point in the world of the same latitude.

Mr. D. Creighton has kept a record of temperature and rainfall for many years; and it shows the average fall of rain to be 31 inches, and very evenly distributed from September to June.

I have traveled pretty well over the United States; and I am free to say that this is by far the healthiest and most desirable locality in which to pass our allotted time in this vale of tears.

J. WARREN STITT, M. D.

CHAPTER X.

Flora of the Vacaville District.

[Written expressly for this Work by P. S. Woolsey, of Berkeley, Cal.]

THE absence of rain and fog throughout the greater portion of the year, and the warm days and cool nights of summer have given a decided annual character to the vegetation of this region. Of trees, however, there is a greater abundance than would naturally be expected from the inland situation of this section. This is due without doubt to the heavy rainfall, which is greater here than anywhere else in the interior of Central California. These valleys were formerly covered with open groves of oak, threaded by denser lines of timber along the streams which wind through the fertile valley. The white oak (*Quercus lobata*) is most common, and grows in groups of five or six, or as solitary specimens. Along the channels of the winter streams other indigenous trees are to be found, principally the live-oak, cottonwood, white alder, and two or three varieties of willow. These trees have now, for the most part, given place to orchards, vineyards and grain fields. The foothills and mountain slopes about these valleys are covered with groves and clumps of oak, interspersed with natural meadows of wild oats and annual plants. Of the oaks, the mountain white oak (*Quercus Douglasii*), the black oak (*Q. Kelloggii*), and the live-oak (*Q. agrifolia*) grow quite abundantly. Besides these there are the white alder (*Alnus rhombifolia*), the well-known mountain laurel (*Umbellularia Californica*), and a few specimens of the madrona (*Arbutus Menziesii*). On the gravelly and less productive ridges are scattered specimens of the "Digger Pine," associated with a dense growth of chaparral.

The trees, however, are confined principally to the cañons and ravines, which, to the westward of Vaca valley, support a tolerably heavy growth. This growth is so inconsiderable in extent as not to merit the name of a timber belt, but it furnishes an abundance of firewood for the inhabitants. Great inroads have already been made for this purpose; and though the supply may not diminish for many years, yet the preservation of these mountains from undue denudation is nowhere of more importance than in this portion of California. For, in

almost every instance, the removal of the timber is followed by desolation, or, at best, a growth of manzanita and brush only.

The shrubby undergrowth of this section is made up of a large number of plants, nearly all of them useful for their wood, their fruits, or for ornamental purposes. The manzanita (*Arctostaphylos manzanita*), the Buckeye (*Æsculus Californica*), and the Chamiso (*Adenostoma fasciculatum*), are very characteristic species and occupy the most ground. Poison oak (*Rhus diversiloba*) is another shrub which is abundantly distributed throughout the foothills and mountains. In addition to these, on the more fertile ridges, are found the California lilac (*Ceanothus thyrsiflorus*), the bush Lupine (*Lupinus microcarpus*), and several coarse species of Compositæ.

This region originally furnished an abundance of rich, nutritious grasses. In the early times these valleys were vast fields of clover, alfilarilla, and flowers, in the spring, and a waving sea of wild oats in the summer. The custom of exclusive fruit planting has done away with these natural meadows. Still, in the spring and early summer the grass in the hills is quite good, and sufficient to support considerable numbers of cattle. But it is not lasting; nearly all the native grasses are annuals, ripening their seeds in June; and for several months before the rains set in, forage is very scanty, except as scattered through the mountain cañons.

But the great glory of this region is in its flowering annuals. The number and variety of these flowers in their season is so great as to form a marked feature in the landscape scenery of the foothills. Blue, red, purple, yellow, and white flowers are massed together in patches sometimes covering acres. The different kinds do not usually intermix, but grow in dense segregated bunches, giving a gay and varied appearance to the surface. But it is a noticeable fact that while these flowers possess great beauty of form and color, they are as a rule deficient in odor. The rapid growth of the annual vegetation is also remarkable; the most casual observer will not fail to notice the rapidity with which flowering plants spring up, blossom, and mature their seeds. In this section the growing season begins and ends very early. With the first heavy rains, usually in November, the grasses and annuals spring up on every hand, robing the hills and fields in green; the growth during December and January is usually slow, but the warm sun of February brings them on with astonishing rapidity. By the end of June the annual vegetation has passed through the whole course of its existence; and the hills which presented the appearance of a flower garden have become dry and parched.

Even the most indifferent observer of flowers cannot but remark the wonderful beauty and delicacy of our early spring annuals. But how few, even lovers of wild flowers, are aware that there is a distinct and very interesting flora which appears late in the fall of the year. This is confined, for the most part, to the valleys and mountain cañons and belongs chiefly to the order Compositæ. In color they are usually yellow or white, occasionally blue or pink. At this season, also, the poppies, which may be seen in every month of the year, are very plentiful in the grain fields, contrasting strongly and beautifully with the purple flowers of the Lupine.

FOREST TREES.

The number of forest trees found growing in this section is not very great, nor is their quality good. Many which are commonly shrubs, and occasionally trees, we have mentioned along with the shrubs, indicating the difference in growth. We shall direct attention only to the most common.

The valley white oak (*Quercus lobata*) is the most common and largest oak in this section. It attains a growth of about fifty feet in height, and a few aspire to a diameter of five feet. It is this oak with its drooping branches that gives that peculiar park-like appearance to Californian valleys. Though it presents the longest trunk of any of the oaks, the wood is of very poor quality, and of little value even for fuel. See Plate III.

The mountain white oak (*Q. Douglasii*) comes next in size. The general appearance and habits of this tree are very much the same as those of the valley white oak. It differs from it, however, in having short, rigid, and erect branchlets, while those of the *lobata* are drooping. The leaves are smaller and less deeply lobed, and the rather pale acorns form in clusters at the extremities of the branchlets. This oak constitutes the principal kind of firewood. It is brittle and crooked grained and not available for any other purpose.

The California live-oak (*Q. agrifolia*) is one of the most beautiful and graceful trees of this region. Its form is low and spreading, and it has a rich evergreen foliage. The tree generally grows in groups and is found both on the hills and in the valleys. The shape of the leaf varies not only in different trees, but sometimes on the same tree. The acorns ripen annually; vary in size and shape, and are almost entirely immersed in the cup. The wood is hard and excellent for fuel. In some localities it is also used for certain mechanical purposes.

The black oak (*Q. Kelloggii*) is common in the mountain cañons. It is a medium-sized tree, and has a rough, black bark. The broad oval leaves are from three to six inches in length. The acorns ripen only once in two years. The wood, when well seasoned, is sound and durable; and it is employed in the manufacture of wagon axles and for a great many other useful purposes.

There is but one representative of the pines in this region, *Pinus Sabiniana*, variously called "Scrub Pine," "Nut Pine," and "Digger Pine." It is usually found sparsely scattered over the rocky ridges. In the vicinity of Pleasants' valley and Putah creek it is frequently met with on the rolling lands, indicating a poor quality of soil. It neither grows very large, nor is it valuable for timber. The cones are large, ovoid in form, and armed with strong recurved beaks an inch in length. These contain edible nuts about the size of a large bean, which were formerly a favorite article of food with the Indians.

The only valuable timber tree that is common in this section is the Mountain Laurel (*Umbellularia Californica*). It is a handsome tree with glossy, deep-green foliage. On the dry hills it rarely exceeds ten to twenty feet in height, but in the cañons and along the streams it becomes a tree from forty to sixty feet in height, and about three feet in diameter. The small flowers are numerous, and begin to appear very early. The fruit is a drupe, an inch or more in length, turning to a dark purple when fully matured. The wood is

grayish in color, very hard, bears a high polish, and makes beautiful furniture and veneering. The leaves, when bruised, have a strong aromatic odor, which causes dizziness and headache to some persons.

Another valuable timber tree growing in this region is the madrona (*Arbutus Menziesii*), and that is so rare as to be of no economic value. Here it acquires a height of forty or fifty feet and a diameter of about two feet. It is a beautiful evergreen with rich foliage; the dark green leaves are thick and lustrous; and the red bark is smooth and bright, and renewed at regular seasons. The elongated clusters of fragrant white flowers may be seen from early spring till late in the summer. The tree bears a bright red berry much sought after by the Indians. The wood is very hard, fine-grained and bears a high polish. It is a handsome tree for ornamental purposes.

The cottonwood (*Populus Fremonti*) abounds in the light, rich soil along streams. It is a tree of rapid growth, and attains a height of about eighty feet and a diameter of four or five. It has a light, open foliage, and a rough, grayish bark. The wood when dry is light and durable, and is put to a vast number of uses; dry-goods boxes, spools, clothes-pins and many other articles are made from it.

The willow tribe (*Salix*) is represented by three, and possibly four, varieties, as yet not fully determined. One of them is a tree forty to fifty feet in height and from two to three feet in diameter. The wood of this tree is too soft and brittle to be used for anything but firewood. Where fuel alone is desired, it has the advantage of being a rapid grower, and may be planted in soils that are not adapted to other trees. A common species along streams is a large shrub from twelve to fifteen feet in height, with long, straight and flexible branches. The young twigs have a yellowish color, and the leaves are lanceolate, long and taper-pointed. Another species has reddish or olive-colored twigs, and grows from eight to twelve feet high. The catkins of both species appear before the foliage. So far as observation has extended, these willows seem to have all the properties which are desirable for basket-making and similar uses; and as population increases there will be, undoubtedly, a large field for profitable employment in the cultivation of these native willows.

The large-leaved maple (*Acer macrophyllum*) is found along the streams. In size and value it does not compare with the hard and soft maples of the East. It is, however, a handsome tree and worthy of cultivation for ornament. The fragrant yellow flowers hang in long racemes; the leaves are from six to ten inches broad and of a pale-green color.

SHRUBS AND PLANTS.

Manzanita (*Arctostaphylos manzanita*) is the first to invite our attention. It usually grows in clumps and is abundant on all the hills and mountains. In this section it varies in size from a low shrub, a few feet in height, to a small tree with a low branching trunk—often a foot and a half in diameter and twenty feet in height. The more usual form, however, is that of a shrub ten to twelve feet high, branching from the ground into many trunks, which are rarely over three or four inches in diameter. The beautiful evergreen foliage,

the profusion of flowers which it bears, and the smooth, clean bark of a bright red color, mark it as one of the handsomest shrubs of California. The blossoms are of a pinkish white, and are produced in short terminal racemes, which, when arrived at full perfection, completely cover the bush. It is one of the earliest flowering species, often being in full bloom at Christmas time. The flowers give place to a small berry, which becomes a dull red when ripe. These berries are edible, though rather too dry and flavorless to be much relished. The bark is exfoliating; and the wood is dense, hard, of a reddish color, and very little used in the arts as yet; though its abundance, its peculiar form, and beautiful color, suggest that it might be used for rustic furniture and many other purposes. See Plates IV and X.

The California horse chestnut or buckeye, (*Æsculus Californica*), grows abundantly on the hills and in the ravines. Most commonly it is a shrub from ten to fifteen feet high; but, on the banks of streams and moist hillsides, it is sometimes found as a low spreading tree, having a trunk from twelve to fourteen inches in diameter. The foliage is very dense, and forms a perfect shade. The large rose-colored flowers are produced in thick clusters from six to twelve inches long, and may be seen from early in the spring until late in the summer. At this season it is a most beautiful tree.

The shrub which occupies the dry and gravelly ridges is the chamiso (*Adenostoma fasciculatum*). It is very gregarious in habit, and, combined with manzanita, scrub oak, mountain mahogany, and various other shrubs, forms dense and impenetrable thickets, which the Spanish call "chaparral." So abundant is it, that the main ridge of mountains west of Vaca valley presents the appearance of a vast wall of this brush. Closely related to the chamiso is the mountain mahogany (*Cercocarpus parvifolius*). It has a low crooked growth, bright glossy leaves, and a fragrant yellowish blossom. The wood is hard, heavy, and of a reddish color.

The California lilac (*Ceanothus thyrsiflorus*) is a beautiful evergreen shrub, growing from eight to ten feet high, and found in the wooded mountain cañons. In the spring, when covered with its dense compound racemes of blue flowers, the plant presents a handsome appearance. It has been brought under cultivation on account of the profusion of its fragrant flowers, and the readiness with which it trims into various shapes.

The alder (*Sambucus glauca*) is a very common shrub belonging to the valley. In the summer season it is conspicuous for its broad cymes of white flowers, followed by clusters of small, black or dark purple berries. It is rather a troublesome plant in orchards—its long roots being very tenacious of life and hard to exterminate.

The most striking and beautiful shrub to be seen on the mountain sides in late winter and early spring is the "Burning Bush," or "Judas Tree," or "Red Bud" (*Cercis Occidentalis*), for it is known by all these names. It is curious, in that the branches are thickly covered with rose-colored flowers before the leaves begin to appear, giving a flaming appearance to the whole plant. It is also a very pretty shrub when covered with its bright green foliage. But that which most gladdens the eye, as it wanders over the hills and cañons in

December, is the appearance of the bright scarlet berries of the California holly (*Heteromeles arbutifolia*), forming a decided contrast to the dark shining green of the leaves. It is an evergreen shrub, from ten to fourteen feet high; in favorable situations it is sometimes a low tree. The flowers appear in June and July and are not very conspicuous; the berries mature in December and remain long on the trees; they are about the size of a pea and completely cover the twigs. This shrub, so beautiful in all seasons, is a worthy subject for ornamental cultivation. Another handsome shrub, found everywhere throughout the cañons, is the snowberry (*Symphoricarpus racemosus*). It is a low and delicate, but hardy shrub, noticeable, and, in some places, cultivated for the white pearly berries, which are quite ornamental and remain on the bush long after the leaves have fallen. Its flowers grow in leafy spikes, terminating the branches, and are rather inconspicuous. Rather a pretty evergreen shrub on the dry, bare hillsides is the barberry (*Berberis pinnata*). It is conspicuous for its green and shining foliage and axillary racemes of bright yellow flowers.

The poison oak (*Rhus diversiloba*) is very plentiful on the hills and in the cañons. This so-called oak bears no resemblance to the true oak (*Quercus*), except, possibly, in the lower leaves. It varies greatly in size and habit, sometimes appearing as an independent shrub of considerable size, and sometimes as a climber, ascending trees to the height of thirty to forty feet by means of rootlets. The flowers are very minute; the fruit, a small berry-like drupe, is borne in clusters. Its notoriety is due entirely to its poisonous qualities.

Of native medicinal shrubs, yerba santa (*Eriodictyon glutinosum*, Benth) is one of the most abundant. It is a low shrubby plant, growing from three to five feet high, and very common throughout this region. The smooth stems and twigs are covered with thick rigid leaves, and show more or less of a resinous exudation, particularly on the vigorous, growing ones. The flowers terminate the branches in small, rather crowded clusters, varying in color from purple to white. The leaves of this plant have long been used by the old Spanish settlers as a remedy for consumption, catarrh, chronic coughs, and other diseases affecting the mucous membrane.

Big Root (*Echinocystis marah*) is very common in this section, both on the hills and in the valleys; it is a member of the order *Cucurbitaceæ*, to which belong the cucumber, squash, pumpkin, watermelon, and like fruits. In grain fields it forms bushy tufts, two and three feet high, which, in their season, are covered with a dense mass of small white flowers; when in the shade and supported by trees, it sometimes climbs thirty and forty feet. The fruit is large and covered with soft weak spines, its rind being about one-fourth of an inch thick and filled with large seeds; its white brittle root is very extensive. Another and rare species (*E. muricata*) is found on the hills back of Vacaville, and is one of the earliest plants to bloom. The fleshy fruits and the roots of this species have valuable medicinal properties.

A most singular twining shrub is the *Aristolochia Californica*, Gr., commonly called "Pipe Vine," or "Dutchman's Pipe." This has a handsome broad foliage, with brownish purple and very curious flowers, shaped and

curved like a Dutch pipe. It twines about shrubs and trees, often taking complete possession, and is to be found along streams and on moist hillsides. But the most ornamental of vines is the native grapevine (*Vitis Californica*, *Benth.*). This plant is a tall climber, and gives a dense mass of brilliant green foliage throughout the summer season. It is very abundant, overrunning creek banks with a luxuriant growth, hanging the trees with festoons, and, in some cases, so completely covering them that nothing is visible but a conical mass of green. The fruit is produced in large clusters, is small, purple, and has a pleasant flavor.

ANNUAL PLANTS.

The first tribe of plants to be noticed is the *Ranunculus*, or buttercup family, which embraces some very beautiful varieties; many of the plants belonging to this order are cultivated for ornament, while several are important for their medicinal qualities. A very pretty half-woody climber is the Virgin's Bower (*Clematis lasiantha*), which may be found showing its white blossoms from some supporting shrub or erect plant by path or wayside. It is a plant of rapid growth, a free bloomer, and very ornamental. Closely related to this is our well-known buttercup (*Ranunculus Californicus*). Its yellow blossoms may be found almost anywhere—in field, hillside, or cañon—from early in February until the hot summer sun begins to robe the hills in brown. In some localities it is so abundant as to appear at a distance like an unbroken sheet of yellow. *Isopyrum occidentale* is a little flower of the woods, which may be known by its delicate white blossoms and somewhat clover-like leaflets. As yet it has only been found growing in sandy soil beneath the shrubs and trees of the mountain cañons. The very handsome columbine (*Aquilegia truncata*) grows only on the cool shady banks of mountain brooks. It is one of the prettiest of the spring-blooming flowers, and may be known by the showy blossoms terminating the branches.

The larkspurs (*Delphinium*) belong to this same family, and embrace some of the most ornamental plants of the order. We have four beautiful varieties greatly surpassing in size and coloring those cultivated in the garden: one, the brilliant red larkspur, growing in the woods at the head of mountain cañons, is very rare; the most common is *D. variegatum*, which has a tallish stem crowned with an open cluster of large deep-blue flowers. All of these species are hardy, easy of culture, and so beautiful that they should have a place in every flower garden.

The poppy family (*Papaveraceæ*) is an interesting order of plants, much cultivated for its showy flowers. *Platystemon Californicus* (cream cups) are very pretty specimens of this family; they have a greenish yellow flower deepening to a yellow in the center, and are very common in the grain fields and on the lower hillsides. The well-known California poppy (*Eschscholtzia Californica*) grows in large patches or masses, illuminating acres of hillside and valley by its brilliant shining orange blossoms. No other plant is so conspicuous or produces such a degree of splendor. The prevailing color in this sunny climate is a light yellow, though early in the spring it is a deep orange.

Variety *Douglasii* is also common, and may be recognized by its more finely divided leaves. Variety *Cæspitosa* is a much smaller plant, sending up small yellow flowers on naked scapes, considerably higher than the leaves.

The mustard family (*Cruciferae*) is the next tribe of plants to be noticed. We shall pass over it very hastily, as most of its representatives in this section are very common weeds. One of them, *Capsella Bursa-pastoris*, or Shepherd's Purse, is among the first flowers to bloom in spring. This worthless little plant has small white flowers and is sometimes so abundant as to be quite troublesome. The mustards (*Brassica*), pepper-grass (*Lepidium*) and wild radish (*Raphanus*) are too well known to need further comment. One species (*Erysimum asperum*) warrants notice on account of its handsome orange-colored flowers.

The violet family (*Violaceæ*) has two modest little representatives: *Viola pedunculata* and *V. chrysantha*, which come in early spring to touch with life and beauty the hillsides which otherwise would be barren. The flowers are yellow, more or less tinged or veined with a brownish purple; they are quite showy, but lack the fragrance which characterizes many of the cultivated species. Two specimens of the family *Portulacaceæ* will attract attention: *Calandrinia Menziesii* and *Claytonia perfoliata*. The former is the most common of all the early spring flowers, and covers acres with its profusion of bright red corollas; the latter is a low succulent plant, commonly known as "Indian lettuce;" the stem has a pair of broad fleshy leaves uniting into a shallow leaf cup, from which springs a raceme of delicate pinkish flowers.

The geranium family (*Geraniaceæ*) is important since it contains two of the most valuable forage plants native to this country: *Erodium cicutarium* (pin-clover or filaree) and *E. moschatum*. The former is a much-branched and spreading herb, seldom more than two feet in height. The numerous stems are sweet, juicy, and very nutritious; the flowers are small and rose-colored, arising in an umbel from the joints of the stem, and succeeded by bunches of green pins, or spikes, from one to two inches in length. The large, deep-seated roots are well adapted to withstand the heat of a dry climate. Whether young and green or in a dry state, stock of all kinds prefer it to any other indigenous plant. *E. moschatum* is very similar to the last, but of a lighter green, and emitting a musky odor.

The pea family (*Leguminosæ*) is the next tribe in order that has any representatives worthy of mention. It is the most valuable and interesting of all the families; and its members are easily distinguished from other classes by the peculiar butterfly-shaped corolla. The lupines form a marked feature in the vegetation, growing everywhere and in the greatest profusion. There are many kinds, including several perennials, and two or three beautiful flowering shrubs. Of clovers, including under this head the true clover (*Trifolium*), the sweet clover (*Melilotus*), *Medicago* and *Hosackia*, there are nearly twenty species and varieties; but of these we shall mention only three or four of the best. *Trifolium fucatum* is one of the largest and most important species. In moist, favorable situations it frequently reaches two feet in height; while on the dry hills it does not rise more than three or four inches. The stems are thick

and juicy, affording excellent pasturage; the heads are quite large and contain few flowers—these being about an inch long, of a pale rose color and inflated. *T. involucreatum* is also a plant of vigorous growth, often reaching one and a half and two feet in height. The stems are decumbent, branching and very leafy. The purplish flowers are crowded close together, and terminate the branches. This species is perfectly hardy, and one of the best of native forage plants. The burr clover (*Medicago denticulata*) is the most common, and, in some respects, the most valuable for forage. It derives its name, as well as its value, from the small spiral pod, which forms a nutritious food for cattle after everything else has disappeared.

There are a few very pretty plants in the family of evening primroses (*Onagraceæ*). *Zauschneria Californica* is an elegant, half-woody plant, with brilliant scarlet flowers, resembling in shape the fuchsia. Its season for flowering is in the late summer and autumn months. Belated specimens may be found as late as the end of December. *Clarkia elegans* is truly deserving of its name. It grows from one to two feet high, with an erect stem, and has purple and rose-colored flowers. This plant is much cultivated in the Eastern States, and in Europe for its showy flowers. The order *Primulaceæ* has one very attractive species, *Dodecatheon Meadia*, which throws up a neat trim scape from four inches to a foot high, crowned with purple and white flowers.

The sunflower family has by far the largest list of flowering plants of all the orders. They are especially common in the fall, and so showy as to attract general attention. We shall, therefore, call attention to only a very few. The sunflower (*Helianthus Bolanderi*) is very common in this region. It is a branching plant, growing from two to four feet high, and found in the low ground of neglected orchards, and along the dry channels of the streams. The flowers are large and showy, and terminate the branchlets. This plant, though so common here, is as yet little known to the botanical world. *Senecio Douglasii* makes rather a handsome appearance, growing in dense thickets on the dry gravelly beds of Putah creek and other streams. There are two fine species of everlastings: *Gnaphalium microcephalum* and *G. decurrens*. If gathered, when they first open, and carefully dried, they will retain their color and shape for a long time. The golden rods (*Solidago occidentalis* and *S. Californica*) are coarse-looking herbaceous plants with yellow flowers blossoming in the fall. They make a pretty appearance among the less attractive vegetation with which they are generally associated.

The gum plant (*Grindelia robusta*, Nutt. variety, *rigida*) is an herbaceous perennial from one to two feet high belonging to the order *Compositæ*. The pale leafy stem is erect, branching near the top. The yellow flower heads terminate the branches, and are surrounded with an involucre of green scales, usually gummy with a balsamic exudation. This plant has a local reputation as an antidote for poison oak. It has also been lately introduced into medicinal practice for other uses. The handsomest plant of this family, appearing in the autumn, is *Mentzelia lacvicaulis*. It is a stout-branching plant, from two to three feet high, and produces a profusion of large flowers, of a fine golden yellow hue. It is very plentiful in sheltered sunny places along Putah creek.

The *Gilias* (of the order *Polemoniaceæ*) are found growing along the hillsides. Scarcely anything can be prettier than these small annuals when crowded thickly together and in large patches. Of humble stature and neat growth, it is well suited for culture in masses. A paper of this sort would not be complete without mention of *Nemophila insignis*, commonly known as "blue eyes." Its dense bunches of clear light blue flowers cover the moist places in the meadows where coarser plants refuse to grow. The foliage of the plant is of pale green and grows about six inches high.

We now come to the figwort family (*Scrophulariaceæ*) which presents a greater variety of beauty than any other single class of plants. First among these are the *Collinsias*, beautiful hardy annuals, that deserve a place among cultivated flowers. The most showy species is *C. bicolor*, with its purple and white flowers nearly an inch long, and both numerous and pretty. The *Penstemon* is another genus remarkable for its many beautiful species. The flowers of all the species are more or less tubular in shape, and are produced in racemes or spikes; the colors are scarlet, purple, and blue. *Mimulus* has variously colored, handsome flowers. The painted cup (*Castilleja*) also belongs to this family. It derives its name from the painted bracts, or leaves, surrounding the flower.

In the mint family (*Labiataæ*) are two plants worthy of notice. The "blue curls" (*Trichostema lanceolatum*), growing about six inches high, abounds in the hills back of Vacaville. It is a pretty plant, with one-sided clusters of blue flowers, but has a sickening odor. The horehound (*Marrubium vulgare*), so well known in popular medicine, having been introduced, has become naturalized. Great patches of it may be found along Putah creek in the vicinity of Winters, and also in dry waste ground about Vacaville. Of the *Polygonaceæ* or buckwheat family we have several species of the very pretty *Eriogonum*. One of them, *E. dasyanthemum*, a very rare species elsewhere, is found in abundance on the hills in this district. The beautiful genus *Iris*, of the family *Iridaceæ*, is very rare in this section. A few specimens of the magnificent cream-yellow flags, *Iris Douglasiana*, have been found in the open woods of the mountain cañons.

Of the *Liliaceæ* family we have to mention two very beautiful, interesting species. They are among the handsomest flowers of California, and furnish the prettiest of garden plants. These are the "golden lily bell" (*Calochortus pulchellus*), the finest of all the lilies, which hangs its yellow corollas down over the bare rocks in the cañons; and the butterfly lily (*C. Weedii*). The deep yellow petals of this flower, dotted with purple, and covered with long slender hairs, invariably suggest the wings of a butterfly.

That beautiful parasite of British classics, the mistletoe, appears in great abundance, and has fastened itself upon all the larger trees excepting the laurel. This plant roots itself beneath the bark of the trees on which it grows, and derives from the sap its whole nutriment. The fruit has a viscid pulp, which glues the seed to the bark until it takes root. There are two varieties: *Phoradendron flavescens* has a dark-green foliage, a pinkish berry and is usually found on the oaks; the other is called the variety *macrophyllum*; it is usually

found on the buckeye, cottonwood and willow, and may be known by its large leaves of a pale color. The fruit of this species is pearly white and larger than that of *Flavescens*. The parasite which grows on the pines of this region is called *Arcenthobium Americana*. See Plate VIII.

The species above enumerated do not include probably more than one-fourth of the native plants of this region. To describe or even notice, within the space at our command, the entire flora, would be impossible. We have noticed only a few of those particularly worthy of attention either for their beauty or for some peculiar use or attractiveness. The remaining portion consists of plants that, for the most part, would interest only the purely scientific student. It is our desire to see the pretty wild flowers of California more popular. We have pointed out a few which it seems very desirable should be given a fair trial in cultivation. They are not only much handsomer than most cultivated species, but require so little labor and care that they should have a place in every flower garden. Some species have already been brought into this condition, and are highly prized in Europe and the East as furnishing the gayest of garden flowers. It has been our aim in this paper to call attention to the great variety and beauty of California flowering shrubs and annuals, and to say just so much about them as would direct toward them "that spirit of inquiry that may lead to a better acquaintance."



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One of the attractions of this House, which the present writer has often enjoyed but has never before seen advertised, is the number of intelligent old California Pioneers who nightly gather around its hearthstone and swap stories of '49, about "mining camps," "Indians," "b'ars," "crossing the plains," "coming around the Horn," "stock ranging," etc., till the listener feels quite well posted on early history, from first hands. In fact, the proprietor himself came to the Coast in 1851, and was afterwards U. S. Surveyor-General of Nevada for fourteen years.

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No. 1. From Vacaville north, either along the eastern edge or through the center of the orchards of the lower valley, then across towards the mountains, then north again, either along the western edge or through the center of the orchards of the upper valley, to the top of a hill on the main road, about six miles from Vacaville, from whence fine views can be had in every direction. This drive takes one through the foreground of the landscapes in Plates II, III, IV, V, and VI, passing most of the fine places illustrated in those plates. This trip can easily be made in half a day, including some stops among the orchards and vineyards, where at the right season one can buy for "four bits" half a bushel of fruit too soft to ship, but more healthful and delicious than can ever be found beyond the bounds of the orchards where it is grown.

No. 2. The same as No. 1, but turning up Gates' cañon, some two miles, through the first range, then by either of the branch roads up the mountain side.

No. 3. The same as No. 1, but turning up Weldon cañon through the first range, and up either of the two roads to the left. Either road in either cañon will give magnificent scenery among rocky precipices, chaparral and wild vines; and either of these trips should include a lunch, a picnic, some sketching or photographing—and should take the larger part of a day's time.

No. 4. The same as No. 1, but continuing north to Pleasant's valley, taking lunch on Putnam peak or in Miller cañon (by foot path—no road) passing on north through the landscapes of Plates VII, VIII and IX, to the old Wolfskill places, and then to Winters. From Winters a day can be most charmingly spent in a drive up Putah creek, Putah cañon, and through the Devil's Gate to Berryessa valley, in Napa county.

No. 5. North from Vacaville two miles, along the edge of the orchards, to Gibson cañon, up the left-hand road to the top of Smith's peak—walking the last few rods. Plates III, IV, and frontispiece do not begin to do justice to the magnificent bird's-eye orchard views to be obtained from this point in a good light. Going back to the main road the finest hill orchards and early vegetable farms can be seen all along within two miles up the other arm of the cañon. This ground can be covered from Vacaville within half a day.

No. 6. To Laguna valley, the old adobe houses, Lagunita rancho, Bassford's cañon (Plate X), then up the north arm of the valley to Walker cañon, then over the bridge and out to Vaca valley at a point nearly in the center of the hill range in Plate II, then up among the hill orchards to survey the country toward Vacaville, as but a few years ago the first settlers used to do to locate their bands of cattle and horses among the wild oats.

No. 7. To and through Laguna valley, six miles, to the Tolenas springs and onyx quarry; or, if active exercise is wanted, climb all over the so-called Volcano mountain and taste its various alkali springs.

No. 8. Same as No. 7, but continuing on twelve miles from Vacaville to the grand ranch of A. T. Hatch, in Suisun valley, and driving a mile and a half either way through continuous avenues of trees bending beneath their load of fruit. This trip can be made easily in one day and return to Vacaville.

No. 9. Same as No. 8, but continuing beyond Suisun valley to Green valley, and camping out over night by its beautiful falls.

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are active, obliging and honest in all their dealings, and courteous and painstaking in their endeavors to suit the needs of individual customers. Having grown up in the district on one of the oldest and largest fruit ranches, they will be found a perfect encyclopedia of information on every subject. Any stranger securing the services of one of the Cantelow brothers to drive him about this country will gain more pleasure, satisfaction and knowledge of the fruit-growing industry at less expenditure of time and money than can be acquired in any other manner.

The Vacaville Fruit Company.

STOCKHOLDERS.

E. R. THURBER,
President.

W. W. SMITH,
Vice-President.

F. B. McKEVITT,
Secretary.

F. H. BUCK,
HENRY BRINCK,

H. A. BASSFORD,
WM. BRINCK,

J. M. BASSFORD, JR.,
L. W. BUCK.

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— ♦ — DEALERS IN — ♦ —

CALIFORNIA FRUITS AND PRODUCE,
VACAVILLE, CAL.

WHOLESALE DEALERS AND SHIPPERS OF

Vacaville and Winters Fruits
OF THE FINEST DESCRIPTION.

*Special Attention Given to the OREGON AND PACIFIC
COAST TRADE.*

This Company is an organization of Fruit Growers and Shippers of Vacaville and Winters, formed for the purpose of dealing in the fancy products of this celebrated locality. As is well known by the trade everywhere, the fruits and vegetables from this vicinity are the earliest products of the kind in market, and for a considerable period the *only* fruit obtainable. Being grown entirely without irrigation, the shipping qualities of our produce cannot be excelled. Vacaville, being but five miles from the main line of the C. P. R. R., about midway between San Francisco and Sacramento, enjoys first-class facilities for shipping direct to northern or eastern points, and thus this Company is enabled to furnish its patrons with goods in much fresher condition than has before been possible.

We shall be pleased to correspond with dealers in any part of the country with a view to opening direct business relations. Address

THE VACAVILLE FRUIT COMPANY,
VACAVILLE, CAL.

IF the reader of the foregoing chapters wishes the story continued from week to week hereafter, let him subscribe for the

Vacaville Reporter

which is published EVERY THURSDAY at VACAVILLE, SOLANO COUNTY, CAL., by

JAMES D. McCLAIN,

Editor and Proprietor.

It contains a multitude of items concerning the people and products of the district. From a late issue we copy the following items, which may be of interest and indicate the tone of the paper:

Solano is the most important agricultural and fruit-producing county in the State.

Vacaville is the greatest fruit-shipping point in California.

Vacaville township's assessment for 1887 amounted to \$2,352,940 (exclusive of the railroad assessment).

The delinquent tax list of Vacaville township for 1887 amounted to only \$200, which shows well for the financial ability of our property-owners.

For the past month we have been advertising \$2,400 to loan in the columns of this paper, with only three inquiries about it, and no takers. This speaks in thunder tones and reverberates through the hills and dales that our people are not fretting over debts due and past due.

The East wants Vacaville fruit, because it comes to them in better shape than any other they receive. Being non-irrigated, it is solid and gives the consumer solid comfort. Besides the orchardists already here, there's room for more. If you don't want to tackle the virgin soil, you can go down into your pocket deeper, and buy an improved ranch.

This is no place for a lazy man. No drones can live here, as everybody is on the rush, and if you get in the way you will be stepped on. If you mean business, peel off your coat, roll up your sleeves and sail into Vacaville township.

Several hundred Chinamen find continual employment here from one year's end to another, simply because they stick to business. Good, steady, sober men will find it an easy job to supplant John, who is wanted—in China—by the citizens of the United States.

If you are ready to die, stay at home; but if you imagine you have a lease of ten or twenty years yet vouchsafed you, come right along and double the span. Southern California boomers will sell you land in a sagebrush thicket for an orange grove, land which would not sustain a rabbit unless the land was irrigated, and if you growl, will say they sold climate and threw the

land in. Here we will furnish land that will produce anything planted in it, and give climate as a chromo to every investor.

The test and profitableness of an industry is success; and out of the many hundreds in this vicinity engaged in the fruit business, either large or small orchardists, there have been but one or two failures in years. The fact that many men have come into this locality, purchased land on time, waited three and four years for a crop and have pulled through and paid off incumbrances, speaks volumes for the fruit industry.

Small Orchards and Labor.

It has been estimated that the fruit yield of California for 1888 will be nearly double the product of 1887, which was itself by far the heaviest in the previous history of the State. The principal question now worrying the horticulturists is the prospect that sufficient labor cannot be obtained to handle the crop.

Last season we heard many complaints from some of the large orchardists about the want of help, but it is noticeable that none of these complaints came from the owners of ten or twenty acre orchards. The large orchardist must go. Give us small patches well tilled. Let the cultivation, care and harvesting of the crops be made the work of the family. The father and grown boys can handle the harrow and the plow, and do the pruning. The work of harvesting would be the business of the whole family. The occupation would be both healthful and profitable, and would to no small extent obliterate the specter of hired labor that bothers so many fruit-growers. The small orchardist with a big family need not fear a scarcity of labor, while the man whose vineyards and orchards extend over hundreds of acres will forever be in hot water.

The Reporter

is the only paper published in Vacaville, and is largely devoted to the local interests of the vicinity. If you want to keep posted on affairs here, remit 65c. for three months, \$1.25 for six, or \$2.50 for one year, and your name will be cheerfully enrolled on our books. The paper is conducted on principles of equity and morality.

F. B. CHANDLER,

—DEALER IN—

LUMBER

Elmira, Solano County, Cal.

**Also Yards at all the principal Stations on the Vaca Valley
and Clear Lake Railroad.**

A GENERAL STOCK OF ALL KINDS OF
BUILDING MATERIAL

KEPT CONSTANTLY ON HAND.

W. W. CRIPPS, ELMIRA,	-	-	-	General Manager.
H. D. CHANDLER,	-	-	-	Manager at Vacaville.
A. H. BRUNSON,	-	-	-	Manager at Winters.
J. M. TOMPKINS,	-	-	-	Manager at Madison and Esperanza.

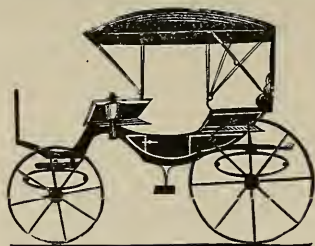
All of my Stock purchased direct from the Manufacturers.

ALSO ENGAGED IN THE RAISING AND SALE OF

Thoroughbred and Graded Norman Horses.

Young Draft Horses and Colts kept constantly on hand for Sale.

GEO. A. POWERS,



CARRIAGE MAKER,
AND BUILDER OF
PLATFORM SPRING FRUIT WAGONS.

Carriages and Buggies of Every Description.

SATISFACTION GUARANTEED.

✦ **HORSESHOEING A SPECIALTY.** ✦

GENERAL JOBBING PROMPTLY ATTENDED TO.

ATTENTION, CREATION!

YOU WILL FIND THE



Largest, the Best and the Cheapest Assortment of

HARNESS

—AND—

SADDLERY GOODS

IN THE COUNTY AT

F. C. CHAPMAN'S,

CORNER * MAIN * AND * DOBBINS * STREETS,
Vacaville, Cal.

MANUFACTURER AND
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SINGLE OR DOUBLE HARNESS

From \$12.50 to \$45, and upward.

Fine Harness a Specialty

AGENT FOR

Buggies, Phaetons and Carriages

OF EVERY DESCRIPTION.

BREWSTER and MILLER

FINE BUGGIES

Best Medium-cost Buggies on the Pacific Coast, Sold at San Francisco Prices.

CALL AND BE CONVINCED.

H. H. CHITTENDEN,

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GENERAL MERCHANDISE,

Dry Goods, Clothing, Furnishing Goods,

Boots, Shoes, Hats, Caps,

GROCERIES, PROVISIONS

Crockery, Glassware, Hardware, Etc.

VACAVILLE, CAL.

F. H. HACKE,

(SUCCESSOR TO H. K. WALLACE.)

DEALER IN

AGRICULTURAL IMPLEMENTS,

HARDWARE,

Tinware, Stoves, Pumps, Pipe,

GLASSWARE, CROCKERYWARE,

PAINTS, OILS, BRUSHES, POWDER, ETC.



Agent for Oliver Chilled Plow and San Jose Cultivator,

VACAVILLE, CAL.

J. WARREN STITT, M. D.

(Bellevue Hospital Medical College, N. Y.)

OFFICE, OPPOSITE DAVIS HOUSE,
VACAVILLE, CAL.

N. B. UPCHURCH,

—Surgical and Mechanical Dentist,—

OFFICE IN

ROBINSON'S BUILDING,

(Opposite Davis House),

MAIN STREET,

VACAVILLE, CAL.

H. P. STIPP, M. D.

HOMEOPATHIST,

VACAVILLE,

Solano County,

California.

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Teacher* of *Music

—AND—

—Modern Languages—

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Great Reduction in the Prices of
Boots and Shoes.

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A. S. McKAY,
BOOT AND SHOE MAKER AND DEALER

First Door West of Chapman's Harness Shop,
will, as heretofore, carry a full and complete stock of
Men's, Women's and Children's Boots and Shoes,
which he will sell at lowest prices for cash.

Special Attention Paid to Repairing.

NOTHING BUT THE FINEST

*Cigars, Tobacco,
Candy and Fruits,*

WM. J. ELLIOTT,

MAIN STREET,

VACAVILLE, CAL.

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General Merchandise,

WHEAT, WOOL, BAGS,

—AND—

Agricultural Implements.

Agent for Leading Fire Insurance Companies.

Cor. Main Street & Railroad Ave.,

WINTERS, YOLO CO., CAL.

M. KAHN,
Grain Broker,

62 Merchants Exchange,

SAN FRANCISCO, CAL.

BANK OF WINTERS.

Incorporated Nov. 6, 1885.

Authorized Capital, \$100,000.

Officers:

E. WOLFSKILL, - - President.
W. SIMS, - - Vice-President.
J. B. McARTHUR, - - Cashier.
E. E. KAHN, - - Secretary.

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General Banking Business Transacted.

Exchange drawn direct on leading
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SAN FRANCISCO CORRESPONDENT,

The London, Paris & American Bank, Ltd.

E. WOLFSKILL.

E. E. KAHN.

KAHN & WOLFSKILL,
REAL ESTATE BROKERS,

Corner Main Street and Railroad Ave.,

WINTERS, YOLO COUNTY, CAL.

Land in the Winters Fruit Belt a Specialty.

CORRESPONDENCE SOLICITED.

Our List comprises Small and Large Tracts of Land suitable for Fruit
and Grain; also Tracts of Grazing Land.

J. H. HARLAN,

—DEALER IN—

GENERAL MERCHANDISE, GRAIN, BAGS AND WOOL,

MAIN STREET, : : : WINTERS, CAL.

I have the LARGEST ESTABLISHMENT of the kind in Yolo County; and, as I buy largely in the East, I furnish goods direct from the maker to the consumer, and sell cheaper than any other House in town.

Being located in the center of the Winters Fruit District, the residents of this section can do better by trading at home than by sending their money abroad.

I CARRY A FULL STOCK OF

TIN AND HARDWARE, WILLOW AND QUEENSWARE,
CROCKERY AND GLASSWARE,
FURNITURE, BEDDING, GROCERIES, PROVISIONS, CLOTHING,
FURNISHING GOODS, ETC.

In fact, a COMPLETE ASSORTMENT OF EVERYTHING usually kept in a well-selected Stock.

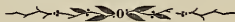
I do a GRAIN BROKERAGE BUSINESS, and farmers entrusting their business to me will be fairly dealt with in every instance.

COUNTRY PRODUCE taken in exchange for Goods, and the highest going rates allowed customers therefor.

Agent for Leading Insurance Companies.

J. H. HARLAN.

Still at the Front!



THE FINEST LISTS OF PROPERTY

—AND THE—

Biggest * Bargains

OF ANY AGENT IN THE COUNTY!

Consisting of the Choicest Improved and Unimproved Fruit Lands

—IN THE—

WORLD-RENOWNED WINTERS FRUIT DISTRICT.

SPECIAL INDUCEMENTS TO SYNDICATES.

W. C. HARLAN,

Corner Main Street and Railroad Avenue,

WINTERS, CAL.

E. C. RUST,
Pub. "Express."

V. MORRIS,
Notary Public.

MORRIS & RUST, Real Estate and Insurance Agents,

Winters, Yolo County, California.

Have for Sale Property in Winters and adjacent
Country, which is unequaled in any
portion of the State.

Prices Reasonable.

Terms to Suit Purchasers.

THIS IS THE EARLIEST FRUIT SECTION IN THE WORLD,

AS THE SHIPMENTS OF VEGETABLES AND FRUIT WILL TESTIFY.

Location is favorable, and Climate as good as any in the far-
famed Southern Country.

CORRESPONDENCE SOLICITED.



OFFICE IN EXPRESS BUILDING.

Newspaper, Book and Job Printing Establishment.

The Winters Express,

EDWIN C. RUST, Publisher,

IS ISSUED EVERY SATURDAY MORNING AT \$2.50 PER ANNUM.

HAS A GOOD CIRCULATION

AND IS

A FIRST-CLASS ADVERTISING MEDIUM!

The Express IS PUBLISHED IN THE HEART OF THE EARLIEST FRUIT SECTION IN CALIFORNIA, and has always full information pertaining to Fruit Culture and kindred topics.

OUR AIM: A GOOD LOCAL PAPER.

[From the WINTERS EXPRESS of June 23, 1888.]

In addition to the ten carloads of fruit shipped from here on Monday last, four hundred packages were sent by express to Oregon and Washington Territory.

G. W. Thissell has twenty hands employed cutting and spreading apricots to dry; and A. A. Prescott has about the same number employed on his place in town.

One hundred and nineteen carloads of fruit and vegetables had been sent from Winters to the different markets, including twenty-two carloads of peaches, apricots and plums sent to the East, up to last Tuesday, the 19th inst. This does not include the shipments by express.

A. B. Ish has about sixty men, women, boys and girls employed cutting and drying apricots, at his place in the western part of town. We visited his place on Thursday morning and witnessed a scene of bustle observable only in a fruit-raising district. The fruit that has been dried looks fine.

H. B. Porter is also engaged drying apricots and has a gang of fifty or sixty hands at work

picking, cutting and spreading. The side-hill where he dries his fruit is completely covered with the "cots" spread out on the trays to catch the rays of the sun.

One young girl eleven years of age earns \$2 per day cutting apricots for drying. We print this to show what school children can do in that section during vacation.

Every woman and child in the community is busy cutting fruit for drying.

The first carload of new wheat to arrive in San Francisco from any portion of this State was sent from Madison by Levy & Schwab last week.

Levi Morris shipped one crate of cantaloupes and one crate of watermelons on Thursday.

J. C. Campbell last year bought eight acres of orchard adjoining town, for which he paid \$2,500. This year he will make from the place, only about six acres of which is in bearing, about \$200 per acre clear of expenses—pretty good interest on the investment.

Occidental Hotel,

OPPOSITE DEPOT,

WINTERS, : : : : : : : : : : CALIFORNIA.



Having recently leased this popular House, we have added improvements to the same and shall hereafter conduct it as a



FIRST-CLASS HOTEL.



Sample Rooms for Commercial Travelers.

Bathrooms in Connection with the House.

HUTCHENS BROTHERS,

PROPRIETORS.

E. IRELAND,

Carriage and Wagon Maker,



WINTERS, CAL.

FARM AND FRUIT WAGONS A SPECIALTY.

BUGGIES, CARTS AND BUSINESS WAGONS CONSTANTLY ON HAND.

Repairing Promptly and Carefully Attended to.

Home Patronage Solicited.

WINTERS ACADEMY.

Winters Academy Occupies a Residence Building on the Corner of Second and Wolfskill Streets.

IT IS THE AIM of this Institution to furnish to earnest young people an opportunity to develop into self-reliant, self-respecting men and women. Believing that good order and discipline can be best secured by self-restraint, the government of the school is thrown upon the pupils.

As a purely intellectual education is an uncertain structure in the quicksands of life, no pains will be spared to inculcate sound moral principles ; but no attempt will be made to teach denominational views.

Thorough instruction will be given in the common branches and the usual academic studies.

Written examinations are held monthly, not for promotion, but to assist the pupil in acquiring a thorough knowledge of the subjects studied.

A monthly report of scholarship and deportment will be furnished to each in a form convenient for preservation.

Tuition, Four Dollars per Month, in Advance.

Visitors are cordially invited. Correspondence may be addressed to

MRS. H. N. S. NEWTON, Principal,
WINTERS, CAL.

Furniture and Bedding,
BEDROOM SETS, PARLOR SETS,
CARPETS, OILCLOTHS AND MATTING,
WINDOW SHADES.
UPHOLSTERING AND REPAIRING A SPECIALTY.
UNDERTAKING: TO THIS BRANCH PARTICULAR
ATTENTION IS PAID.

G. W. GEER,
WINTERS, CAL.

WILLIAM TRUMBULL,
Manufacturer and Dealer in
Harness, Saddles, Bridles, Collars,
Combs, Brushes,
ROBES, WHIPS, ETC.
Railroad Avenue, Winters, Cal.

Every description of Harness, Saddles, etc., on hand or to order at short notice.
Repairing neatly and promptly executed. Prices reasonable and to suit the times.
Particular attention paid to Carriage Trimming.
A share of the public patronage respectfully solicited.

L. A. DANNER,
DEALER IN
Painters' Materials.
House, Sign and Carriage Painter, Paper Hanger and Glazier, Whitener and Tinter.
For a reliable job of Painting call on
L. A. DANNER,
Corner of Main and First Streets,
WINTERS,
Yolo County, California.

Exchange, Livery, Feed and Sale Stable, **WINTERS, CAL.**

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Horses Bought and Sold. Special Attention Given to Transient Custom.
A variety of Livery Turnouts. Horses Boarded by the Day or Week.

JEPHTHA JEANS,

DEALER IN ALL KINDS OF



Sausages, Lard, Bacon, Ham,
HIDES, TALLOW, ETC.

WINTERS. CAL.

HAVE YOU SEEN

The BOSS CANNERY Work?

IT CANS ANY AMOUNT DESIRED.

	PRICE.
Capacity, 225 Dozen per day	\$100 00
" 700 " 1 carload.....	200 00
" 1400 " 2 carloads.....	300 00

State, County, Township and Individual Rights For
Sale on Reasonable Terms.

Call on or address

DR. W. H. AUSTIN, Patentee,
or **O. P. FASSETT**,
WINTERS, YOLO CO., CAL.

G. W. HINCLAY

WILL SELL 40 ACRES OF HIS

SKYHIGH · FRUIT · GARDENS,

In Vacaville Township, near Winters.

NOWHERE in the State of California can be found a better quality of Mountain Fruit Land, not a foot of it waste land. The very earliest fruits of the season are sent from this farm to San Francisco and also to Chicago. Can any day show the proof of this assertion. High and healthy; good fruit, good water, good schools and neighbors; what more can a man want? The scenic views afar off and all around are unsurpassed. The morning view to the east is almost idyllic; in fact, no wider or more romantic view can be found in America. Must be seen to be appreciated. This notice is intended only for the person who wants a small, choice, first-class fruit farm in ready bearing.

PRICE NO MORE NOR LESS THAN
\$400 PER ACRE.

J. HYMAN, JR., and DAN HYMAN, 506 J STREET, SACRAMENTO.

DAN HYMAN,
WATCHMAKER AND JEWELER,

Watches, Diamonds, Jewelry, Silverware, Spectacles, Etc.

WATCH REPAIRING A SPECIALTY.

JEWELRY MADE AND REPAIRED.

Main Street, Winters, Cal.

Take the **Winters Express**

TO KEEP POSTED ON CALIFORNIA FRUIT GROWING.

ONLY \$2.50 PER ANNUM.

Napa Valley Nurseries.

ESTABLISHED 1878.

Headquarters for all the New and Leading Varieties of

FRUIT TREES

INCLUDING THE

Ulati Peach,

Earliest Known,

Clyman Plum,

Earliest Good Plum,

California Advance Cherry,

Earliest Cherry,

Centennial Cherry,

Best Shipper,

Lovell and Muir Peaches,

The Two Best for Canning and Drying,

— ETC., ETC. —

EARLY BEARING ALMONDS AND GRAPE VINES,

— AND —

General Nursery Stock.

These Nurseries are situated within four hours' drive from Vacaville, and in direct communication with railroads and river boats, at tide-water, adjoining the beautiful Napa City, at the lower end of the well-known Napa Valley.

Address,

LEONARD COATES,

NAPA CITY, CAL.

CHICAGO.

SAN FRANCISCO.

BOSTON.

J. K. ARMSBY CO.

GROCERY COMMISSION MERCHANTS.

CALIFORNIA DRIED FRUIT A SPECIALTY.

Liberal Advances Made on Consignments.

CORRESPONDENCE WITH LARGE GROWERS AND DEALERS SOLICITED.

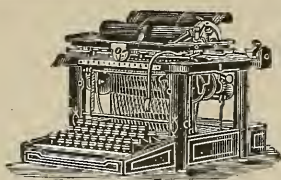


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Specialties in Latest Improved Labor and Time Saving Machinery.



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No Modern Invention is More Popular.

Experience Proves it is Indispensable.

Awarded Highest Honors all Over the World.

Has No Successful Rival in the Market.

The REMINGTON STANDARD is the only Writing Machine that will stand hard service and prove equal to the expectations of Purchasers.

SHREWD BUSINESS MEN USE THE REMINGTON

And save forty minutes of every hour's writing.

Lawyers with an eye to business produce several copies of each Document on the Typewriter in half the time it takes to write one copy with the pen.

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ALSO, OUR NEW

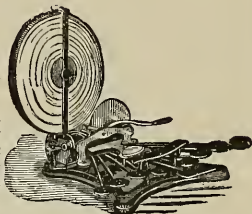
Stenograph Shorthand Machine.

SIMPLE! RAPID!! ACCURATE!!!

Proving as great a success as the Typewriter, and fast becoming just as popular.

Learned in one-third the time the pencil systems require; all its work is uniform and mechanically exact. Is pleasant; does not strain eyes, hands or bodies. It can be operated in the dark, and used upon the lap in a public assembly. The writing of one operator can easily be read by another. We claim the Stenograph is as rapid as any other system, the most exact and uniform, the least tiresome and by far the most easily and quickly learned.

The Stenograph is already in general use by many of the leading firms in San Francisco, and is giving entire satisfaction.



LATEST IMPROVED DAIRY AND FARM MACHINERY.

Centrifugal Cream Separators.

Complete Butter and Cheese Making Outfits.

ROSS FEED CUTTERS

WITH WONDERFUL CUTTING CAPACITY.

SCIENTIFIC FEED MILLS

WILL GRIND EVERY GRAIN THAT GROWS.

CHAMPION MOWERS, REAPERS & TWINE BINDERS,

STEEL WHEEL SELF-DUMP RAKES.

STEAM ENGINES AND BOILERS.

PERFECT SAFETY SECURED.

Strong and Reliable Driving Power Furnished with the most Economical Consumption of Fuel. Most Improved Patterns both in Upright and Horizontal.

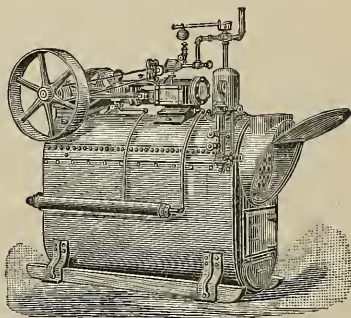
WRITE FOR CATALOGUES.

G. G. WICKSON & CO.

3 AND 5 FRONT STREET,

SAN FRANCISCO.

BRANCH STORES AT LOS ANGELES, AND PORTLAND, OR.



CALIFORNIA FRUITS

— AND —

HOW TO GROW THEM.

BY

EDWARD J. WICKSON.

This work is now nearly ready for publication. The writer has taken the utmost pains to produce a manual which will prove a practical and safe guide in the growth of fruits under the different conditions which prevail in various parts of California, also in the selection of varieties which have proved well adapted to different localities. It will be a straightforward, practical description of the methods which have so far been proved to yield the best results in every branch of fruit growing, from the propagation of the tree onward to the marketing of the product. It is expected that this book will be so plain and practical in its character that any one of ordinary ability may successfully plant and grow any of the common orchard trees, even without previous experience in horticulture.

For further information, address

DEWEY & CO.,
Proprietors PACIFIC RURAL PRESS,
No. 220 Market St., S. F.

THE PACIFIC RURAL PRESS.

THE LEADING AGRICULTURAL HOME NEWSPAPER AND STANDARD
AUTHORITY ON ALL BRANCHES OF CALIFORNIA
AGRICULTURE.

It is the chief medium for the dissemination of information concerning fruit growing in California.

It has the fullest and most accurate REPORTS OF HORTICULTURAL MEETINGS, and is the best record of the EXPERIENCE OF INDIVIDUAL FRUIT GROWERS in all parts of the State.

Its market reports are prepared with care and the greatest reliability possible for the benefit of the producer.

It is a Farm and Home Journal of the highest class, pure in tone and well informed on all matters of industrial interest. It is handsomely printed and illustrated. It is a twenty-page weekly, and is furnished, postage paid, for \$3 per year in advance. Single copies, 10 cents, prepaid.

Send for samples. Address

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ALLISON, GRAY & COMPANY,
General Commission Merchants,

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Green Fruits and Vegetables,
Poultry, Eggs, Game,
AND ALL KINDS OF PRODUCE.



WE ALSO HANDLE LARGELY

DRIED • FRUITS
OF ALL KINDS,

—AND—

Domestic and Imported Nuts,

—ALSO—

ORANGES, LEMONS, LIMES,
AND BANANAS.

Joshua Hendy Machine Works,

39 to 51 Fremont St., San Francisco, Cal.

MANUFACTURERS OF NEW AND DEALERS IN SECOND-HAND

Boilers, Engines, Pumps,

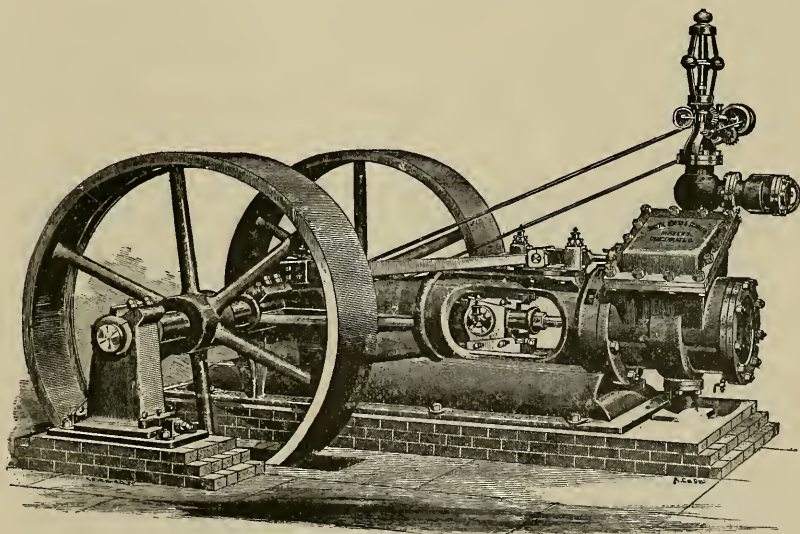
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SPECIALTIES OF

Hydraulic Mining, Quartz and Sawmill Machinery,

Automatic Ore Feeders, "Triumph" Ore Concentrators.

Water Pipe of all Sizes for Sale Cheap.



CONSTANTLY ON HAND AND FOR SALE:

Steam Pumps, Irrigating Pumps, Centrifugal Pumps, Mining Pumps, Water
Pipe, Pipe Fittings, Shafting, Pulleys, Boxes, Hangers, Belting,
Oils and Lubricants, Machinists' Tools, Wood-
Working Machinery, Pressure Blowers, etc.

*Agents for the Sale of "Hazleton" Improved Boilers, Two-Sheet Steel Boilers,
Erie Engine Works' Engines and Boilers, Buffalo Duplex Steam Pumps.*

— SELECT THE BEST! —

THE

ÆTNA LIFE INSURANCE COMPANY

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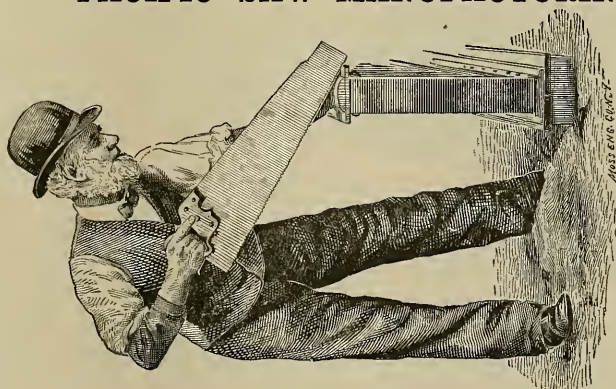
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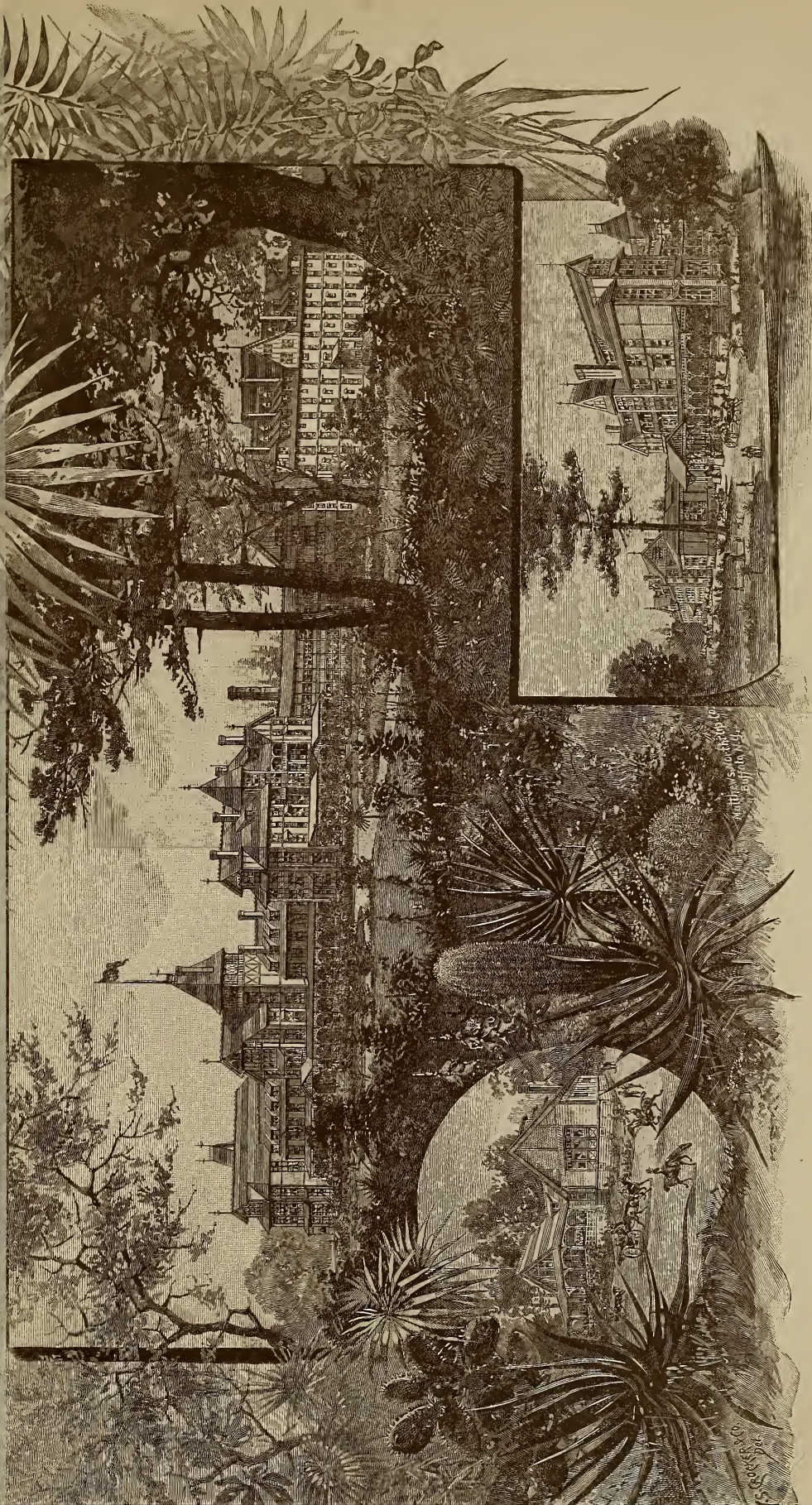
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